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MONTEREY, CALIFORNIA

THESIS

MASS CARE (ESF-6) PREPAREDNESS FOR CATASTROPHIC DISASTERS

by

Ronald J. Charrier, Jr.

September 2009

Thesis Advisor:	Ellen M. Gordon
Second Reader:	Lauren Wollman

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The author of this thesis asserts that the current mass care response capability of the state of Missouri is insufficient to meet the sheltering, feeding and bulk distribution needs of the projected affected population in a catastrophic disaster. This thesis focuses on a catastrophic seismic event along the New Madrid fault zone resulting in an earthquake with a Richter scale reading approximating 7.7 or higher to determine the baseline mass care needs. A capability gap exists due to an insufficient number of trained, qualified mass care volunteers.

Correcting this deficiency requires a new approach including the modification of the current management structure and the active participation and collaboration between all levels of government, volunteer organizations and the private sector. The author proposes concepts that appear to be basic in nature to emergency managers, but when presented to the volunteer community were welcomed, but perceived as progressive. These corrective actions include a state-wide recruiting effort, standardized training and a more hierarchal management structure within the Emergency Support Function 6.

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MASS CARE (ESF-6) PREPAREDNESS FOR CATASTROPHIC DISASTERS

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS IN SECURITY STUDIES
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ABSTRACT

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This project would not have been possible without the support of the volunteer organizations and their representatives that sacrificed their valuable time, resources and guidance. Some of these are the American Red Cross, the Salvation Army, the Southern Baptist Convention and the Convoy of Hope.

I also wish to thank the leadership of the Missouri State Emergency Management Agency for allowing me the opportunity to participate in the Center for Homeland Defense and Security program. I would like to single out Mr. Dante Gliniecki, the State-wide Volunteer Coordinator, for his significant contribution and patience throughout this project.

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I. INTRODUCTION

The state of Missouri struggles with the challenge of improving its disaster response. In the past few years, positive strides have been made in interoperable communications, collaborative command and control, large scale resource management as well as some improvement in mass care and volunteer coordination. Much of the improvement in the area of mass care has been a direct result of practice through repetition. [1]

This thesis focuses on catastrophic disaster mass care preparedness and response as defined in the National Response Framework (NRF), Emergency Support Function 6 (ESF-6).[2] ESF-6 covers all areas of mass care including housing and human services. Since this is too broad of an area to effectively address within this document the author has limited the research to the three areas most critical for sustaining life in mass care: mass sheltering, mass feeding and the bulk distribution of critical necessities such as packaged meals, ice, water, blankets and other basic mass care supplies.[3]

The state has experienced nine federal disaster declarations since March of 2006, including tornadoes, storm damage, floods and ice storms. Compare this with Missouri's sister states within Federal Emergency Management Agency (FEMA) Region VII, Kansas, six; Nebraska, six; and Iowa, four. The Midwest has been particularly hard hit during this time period when compared to other states for the same time period that traditionally expect a higher incidence of disaster such as California, four; Florida, two; and Texas, five.[4] These non-catastrophic disasters present response challenges, but rarely

---

[1] Mass care is normally provided during and immediately after an emergency/disaster until services such as power, water and sewage treatment can be provided. Mass care needs include emergency shelter, and emergency provisions of food, water, basic First Aid, and other essential needs. Mass care is included in the Human Services Branch of the SEOC during disaster response and recovery operations.

[2] Department of Homeland Security, *National Response Framework* (Washington, D.C.: Department of Homeland Security, 2008).

[3] Dante Gliniecki (Missouri State Emergency Management Agency, Volunteer Coordinator), interview by author, January 19, 2006.

[4] Federal Emergency Management Agency, "2009 Federal Disaster Declaration," data base tool, http://www.fema.gov/news/disasters.fema (accessed February 26, 2008).

affect more than 50 of Missouri's 115 counties, require only moderate levels of mass care resource mobilization and do not typically impact entire counties.[5]

Due to the numbers of recent non-catastrophic disasters, the state has provided shelter for more disaster victims than ever before. This increase in shelter activity has resulted in an increase in mass care capability. This increase in capability has not come about through an organized preparedness effort, but rather through the responsible organizations expanding their effort through a reactionary and ad-hoc modality during actual disaster response. One might question the state's ability to provide repeatable and consistent mass care response given the limited formal foundation on which the current plan is based. In addition, large-scale mass care and sheltering of the type required by a catastrophic disaster has yet to be adequately addressed.

While the increase in disaster response activity is a factor in the improvement of many areas of disaster preparedness and response within the state, the greatest areas of improvement do not include mass care response. The major limiting factor for Missouri is a lack of capacity in the delivery of mass care services in a catastrophic event. The current state and local shelter capacity is approximately under 1 percent of the population. The undocumented recommended sheltering capacity goal is 10 percent of the population within the projected affected area and if met would increase the efficiency of state operations and reduce the need for EMAC and federal assistance for the provision of shelter staffing.[6]

The current limited capacity is due to a lack of strategic guidance, the blending of disaster planning modalities, inadequate funding and limited recruiting and coordination of the available volunteers within the state. A sufficient number of facilities for shelters have been identified within the state, but there are not enough trained staff to adequately operate the shelters in a catastrophic disaster response.

The provision of a state-level strategic goal or end state related to the overall mass care capacity coupled with adequate funding would provide a baseline for the necessary

[5] The exception is ice storms, which do usually impact entire counties.

[6] Gliniecki, interview, 2006.

disaster response planning. This planning should follow a single planning model; in this case the FEMA recommended all-hazards model outlined in the FEMA Comprehensive Preparedness Guide 101.[7] Also recommended is the adoption of a more vertical or hierarchal management structure within the Emergency Support Function 6 with the stronger and larger traditional volunteer response organizations assuming the operational management of the sheltering, feeding and bulk distribution functions. This structure, combined with an active volunteer recruiting and training program by state government, should move mass care disaster response capacity closer to the desired level as well as reduce the number of emergent shelters during disaster response as they will be included in the process prior to the onset of the event.

Mass care has received less attention than the more traditional fire service, law enforcement and emergency medical service from the executive level within the state during the recent cycle of improvements initiated by the events of September 11, 2001 and Hurricane Katrina. Since the attacks of September 11, 2001, the bulk of available homeland security grant program funding and additional staff at the state level was primarily allocated for the purchase of communications systems, law enforcement and fire equipment, grant management, training and exercises.

The provision of mass care logistical support is effective once the need has been identified and verified. The State Emergency Operations Center (SEOC) coordinates the support requirements for the American Red Cross (ARC) shelters identified in preparedness plans effectively, but is challenged to identify the locations and logistical needs of emergent shelters, much less their actual populations. These emergent shelters are operated by well-intentioned local organizations and are opened and populated spontaneously without adequate visibility from local and state emergency managers. Due to their spontaneous nature, state and local emergency managers can not adequately plan for the needed logistics these local emergent shelters require. As a result, the emergency

[7] Federal Emergency Management Agency, *Comprehensive Preparedness Guide 101, Producing Emergency Plans: A Guide for All-Hazard Operations Planning for State, Territorial, Local, and Tribal Governments, Interim Version 1.0* (Washington, D.C.: Department of Homeland Security, 2008), 2-2 - 2-5, Federal Emergency Management Agency, http://www.fema.gov/pdf/about/divisions/npd/cpg_101_interim.pdf (accessed February 6, 2009).

management structure must provide these resources in an ad-hoc manner. This unplanned response is a drain on resources and contributes to the problem rather than the solution.

During the ice storm of 2002, Missouri experienced the largest mass care operation recorded by the State Emergency Management Agency. The primary and support agencies at the state level responsible for sheltering function failed to perform satisfactorily. Out of 64 operational shelters, the primary and support agencies were only able to manage eight.[8] Fifty-six of the operating shelters were established and run by volunteer organizations without coordination, support or guidance from state government. While this may have worked for the short duration and limited scale of this particular event, the lack of sufficient logistical support would create a significant shortfall of supplies in a catastrophic event.

Addressing these concerns requires review of the mass care disaster response capabilities in the various volunteer organizations and state agencies within the state of Missouri. This effort should determine the sufficiency of emergency response and resource capability to meet the mass care requirements dictated by the greatest threat to the state. The most significant catastrophic threat Missouri faces is a potential earthquake along the New Madrid fault line. The New Madrid Seismic Zone (NMSZ) last experienced significant earthquakes during the winter of 1811 and 1812, estimated to have been between 7.5 and 8.0 on the Richter scale.[9]

Given the historical precedence set by the 1811/12 earthquakes, it is only prudent that Missouri assume the potential for another earthquake of similar magnitude and prepare accordingly. This makes it an ideal standard for judging the state of mass care preparedness in the state against the "worst case" scenario.[10] For preparedness purposes, an earthquake along the New Madrid Earthquake Fault line of approximately 7.7 on the

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[8] Gliniecki, interview, 2006.

[9] Thomas G. Hildenbrand,Victoria E. Langenheim, Eugene Schweig, Peter H. Stauffer, and James W. Hendley II, "Uncovering Hidden Hazards in the Mississippi Valley," United States Geological Survey, http://quake.wr.usgs.gov/prepare/factsheets/HiddenHazs/index.html (accessed November 10, 2008).

[10] Missouri State Emergency Management Agency, "Annex F" in *Missouri State Emergency Management Agency Hazard Analysis* (Jefferson City, MO: Missouri State Emergency Management Agency, 2007), http://sema.dps.mo.gov/HazardAnalysis/AnnexF.pdf (accessed February 27, 2008).

Richter scale has been adopted by the Central United States Earthquake Coalition (CUSEC), including Missouri, as the planning standard.[11] If Missouri can meet the projected mass care requirements for this event, it can efficiently meet the requirements of disasters with less impact.

Missourians have often heard the potential of a large scale New Madrid earthquake being referred to as the Midwest's Hurricane Katrina. While there is some element of truth to this statement, it misses the mark as the sheer volume of geographic territory impacted by a New Madrid seismic event dwarfs the area impacted by Hurricane Katrina. Katrina was forecast in advance and residents had an opportunity to evacuate or at the least, prepare for its arrival. A New Madrid event will violently strike without warning and create destruction over a large area." According to the Executive Director of CUSEC, Jim Wilkinson "There are 11 million people at risk in the Central United States."[12] The expected area of impact stretches from central Missouri to northwest Alabama and from southern Indiana to south-central Arkansas. Jim Wilkinson added that there could be as many as 4,300 people killed and another 65,000 injured in a 7.7 earthquake. As many as 179,000 homes and 500 bridges could be destroyed.[13]

The earthquake prediction estimates referenced in this document are based on an initial seismic event and due to a high number of independent variables involved. These estimates do not include subsequent aftershocks or repeated earthquakes in the same area. Accurate predictions concerning the cumulative damage to structures and lives lost from people remaining steadfastly within unsafe or weakened structures from the multiple quakes and hundreds or thousands of expected aftershocks over the following year are as difficult to predict. The numbers of affected populations may be greater than indicated in this document.

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[11] Eugene Schweig to Jim Wilkinson, January 20, 2005, "New Madrid Seismic Zone Scenarios," United States Geological Survey.

[12] Jim Wilkinson (Executive Director of the Central United States Earthquake Consortium), interview by Tom Charlier, "A Day of Disaster in Mid-South," ShowMe Net, http://www.showme.net/~fkeller/quake/lib/memphis1.htm (accessed December 11, 2005).

[13] Wilkinson, interview.

A. THESIS OBJECTIVE

How should the mass care response capabilities and response plans of the state of Missouri be improved in order to effectively address the threat of a New Madrid seismic event in excess of 7.7 on the Richter Scale and minimize the need for federal assistance?

B. LITERATURE REVIEW

A review of available material related to mass care response to catastrophic disaster within the traditional academic arena yields little in the way of valuable information. The author was unable to uncover any formal studies or previous research directly addressing this topic. This appears to be an untapped research area that if given the considerable attention it deserves could save many lives in the future.

The available literature on this subject is primarily in the form of government and non-governmental organizational disaster plans, threat analyses along with historic sources on previous disasters and the current threat they pose and governmental post-disaster and exercise after action reviews.

The governmental emergency response plans include the federal National Response Framework and the state plans provided by five of the states with membership in.[14] While a valuable amount of general disaster response information exists within these plans, little of it pertains to mass care and even less to mass care response in a catastrophic event. The general focus of the mass care sections of these plans is on the assignment of overall responsibility and authority with little information on how any of

[14] Department of Homeland Security, *National Response Framework*; Illinois Emergency Management Agency, *Illinois Emergency Operations Plan*, Springfield, IL: Illinois Emergency Management Agency, 2004; Arkansas Emergency Management Agency, *Arkansas Emergency Operations Plan*, Little Rock, AR: Arkansas Emergency Management Agency, Little Rock, AR: 2005; Tennessee Emergency Management Agency, *Tennessee Emergency Support Function 6 Plan*, Nashville, TN: Tennessee Emergency Management Agency, 2006; Alabama Department of Human Resources, *Alabama Welfare Services Disaster Response Plan*, Montgomery, AL: Alabama Department of Human Resources, 2006; Department of Public Safety and State Emergency Management Agency, *Missouri State Emergency Operations Plan*, Jefferson City, MO: Missouri Department of Public Safety, 2006.

the necessary tasks are to be accomplished or what technical or management systems may be needed. These plans were all written using the all-hazards approach encouraged by FEMA.

Non-governmental organization plans vary widely in their level of detail. These plans fall into three basic categories: the well-written American Red Cross (ARC) and the Salvation Army (TSA) plans that contain sufficient detail to provide actual guidance during an event, organizations with limited disaster plans and organizations that have not developed any formal disaster plans.[15] The more successfully designed plans of the ARC and TSA offer both management practices and technical systems that would prove beneficial if implemented on a larger scale within the governmental structure of disaster mass care response.

The federal post-disaster reports focus primarily on Hurricane Katrina response as this is the disaster response that most closely approximates the levels of damage and demand for mass care within the United States in recent years. Many of the publications point out general failures without providing enough specifics or potential corrective actions. An exception to these is the U.S. House of Representatives report titled *A Failure of Initiative*.[16] This report documents specific systematic failures in preparedness, including incident management, displaced persons tracking and shelter management as well as other deficiencies that are relevant to the current disaster preparedness challenge to Missouri that a New Madrid seismic event presents. Other documents of value are the

[15]American Red Cross, *Missouri Capital Area Chapter Disaster Response Plan*, Jefferson City, MO: American Red Cross, 2003; American Red Cross, "Disaster Services Program Guidance," (internal document, American Red Cross, Capital Region Chapter, Jefferson City, MO, 2007); American Red Cross, "National Shelter System Support Training Guide," (internal document, American Red Cross, Capital Region Chapter, Jefferson City, MO, 2007); The Salvation Army; Salvation Army Manual of Standard Operating Guidelines and Policies, (internal document, The Salvation Army, Jefferson, MO, 1991); TSA Kansas and Western Missouri Division Emergency Disaster Services Divisional, *TSA Kansas and Western Missouri Division Emergency Disaster Services Divisional Disaster Plan*, Kansas City, MO: TSA Kansas and Western Missouri Division Emergency Disaster Services, 2004.

[16] House Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina, *A Failure of Initiative, U.S. House of representatives, Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina*, 109th Cong., 2d sess., 2006, H. Rep. 109-377.

Senate version *Hurricane Katrina: A Nation Still Unprepared (Executive Summary)* and the *DHS/FEMA Initial Response Hot-wash, Hurricane Katrina in Louisiana*.[17]

While these documents are helpful, it is important to remember that they were authored within agencies of the federal government and tend to focus on the federal response. It would have proven much more interesting had the author been successful in the attempt to obtain copies of the internal after action reports from the state of Louisiana and the city of New Orleans.

Given the frequency of occurrence of hurricanes over the years within the state of Florida, one might correctly assume a more advanced state of preparedness to have taken place when compared to states that suffer disasters on a less frequent basis. Missouri is not one of these states as Missouri has experienced more federally declared disasters in recent years; yet Florida does have a more advanced formal disaster preparedness program than Missouri. The balance tips toward Florida as they have included much more detail in their plans concerning the identification of shelter facilities, shelter staffing and logistical support. In fairness to Missouri, one must acknowledge that Florida does not have the same winter weather concerns as Missouri. This comparison was made considering only non-catastrophic disasters as the base line. When considering comparable catastrophic events, Florida still struggles with preparing for the sheer volume of affected population, as does Missouri. The equivalent catastrophic disaster in Florida compared to the mid-west New Madrid seismic event in Florida is a category 4 or 5 hurricane directly striking the Miami-Dade County area.

The two major Florida planning documents, the state *Comprehensive Emergency Management Plan* and its supporting standard operating guide are in draft form with the Florida Catastrophic plan currently still in committee without an approved draft. This, along with the current level of detail related to sheltering the massive number of expected

[17] Senate Committee on Homeland Security and Government Affairs, *Executive Summary* in *Hurricane Katrina: A Nation Still Unprepared*, 109th Cong., 2d sess., 2006, S. Rep 109-322; Federal Emergency Management Agency, "Initial Response Hot-wash, Hurricane Katrina in Louisiana, DR-1603-LA," (initial response hot-wash meeting, Royal Sonesta Hotel, New Orleans, LA December 13–14, 2005).

evacuees from the Miami-Dade area in their plans, indicates that Florida, as well, seems to suffer similar challenges as many other states, including Missouri. The largest challenge for the state of Florida is the displacement of a majority of the 2,363,600 within the Miami-Dade County metropolitan area.[18] This figure includes only the Miami-Dade County and Fort Lauderdale populations and not the surrounding area that would also be impacted. Still to be resolved is the question of where and how to effectively shelter a population of this size. In all fairness to Florida, their plans, like Missouri's, do seem to provide adequate mass care to their residents during the more frequently occurring events such as category 1, 2 and 3 hurricanes. Their level of preparedness and response capabilities remain untested for a catastrophic event.[19] The state of Missouri after action reports that proved to be the most relevant and helpful were from the two state-level New Madrid Earthquake exercises conducted in 2007, the after action reviews following the winter storms of November 30 through December 2, 2006 and the storms of January 12 through January 22, 2007. These exercise reports provide confirmation of the preparedness improvements made over the past several years as well as weaknesses in the state's current mass care response system.[20]

The post-winter storm hot-washes are useful indicators of the struggles faced by the state to provide adequate sheltering to those without heat during frigid weather for a prolonged period of time. These documents provide valuable insight into the potential

[18] E Podunk, "Miami-Dade County Profile," (2004), http://www.epodunk.com/cgi-bin/popInfo.php?locIndex=8729 (accessed November 11, 2008).

[19] Florida Emergency Management Agency, "Appendix VI" in *Florida Comprehensive Emergency Management Plan* (rev.), (Tallahassee, FL: Florida Emergency Management Agency, 2007); Florida Department of Social Services, "Final Draft., Florida Emergency Support Function #6, Standard Operating Guide (rev), Version 2," (internal document, Florida Department of Social Services, Tallahassee, FL, 2008.

[20] Missouri State Emergency Management Agency, *After Action Report for the Missouri/New Madrid Earthquake Functional Exercise, June 19-21, 2007*, Missouri State Emergency Management Agency, Jefferson City, MO: 2007; Missouri State Emergency Management Agency, *After Action Report for the Missouri/New Madrid Earthquake Multi-Jurisdictional Tabletop Exercises, June 19-21, 2007*, Missouri State Emergency Management Agency, Jefferson City, MO: 2007.

preparedness shortfalls that exist in coordination, logistics management and communications should the need be magnified to the level required by a New Madrid seismic event.[21]

Unlike the volume of research material available in fields such as mass casualty preparedness, the limited amount of academic research material focused on mass care indicates there is a considerable need for additional research into this field of disaster preparedness. This work is by no means the definitive document on the subject and is intended solely to provide initial guidance to begin the move toward a mass care response capability through the building of capacity.

C. SIGNIFICANCE

The study of the mass care function of disaster response is of great consequence to not only those working in the field of disaster management, but also to the citizens served by the response community. While supporting citizens dislocated from their homes and neighborhoods has always presented a challenge for emergency managers, these challenges have become more significant in recent years due to the increase in population and the size and frequency of disasters forcing citizens from their homes.

This thesis determines the strengths and weaknesses of the current mass care capabilities of the state of Missouri and explores the potential avenues available for increased capability with the goal of improving the effectiveness of the organizations upon which they rely almost exclusively for mass care response and recovery. Research of this nature contributes to the field of emergency management at all levels of government, but it is of particular value to the executive level by providing an independent and impartial analysis of the current level of mass care preparedness capability as well as recommended enhancements. The anticipated outcome of this endeavor is the development of a more proactive and consistent approach to mass care response within the state that includes increases in organization and system capacity that

[21] Missouri State Emergency Management Agency, *Hot-wash, Missouri Winter Storm, November 30 through December 2, 2006*, Jefferson City, MO: Missouri State Emergency Management Agency, 2006; Missouri State Emergency Management Agency, *Hot-wash, Missouri Winter Storm, January 12 through January 22, 2007*, Jefferson City, MO: Missouri State Emergency Management Agency, 2007.

would greatly enhance the safety of the population. It would also increase efficiency, reduce dependence on federal resources and result in a model that other states facing similar issues will find of value.[22]

D. METHOD

In order to determine how the mass care response capabilities and response plans of the state of Missouri may be improved, it is necessary to first determine the current response capability. This will be accomplished through the review of available state disaster planning documents, after action reports from previous state exercises and disasters and the conduct of interviews with subject matter experts in mass care affiliated with the various key mass care response organizations within the state.

Since the state has finite response resources, it is essential that both the federal and the Emergency Management Assistance Compact (EMAC) response capabilities be considered in this equation as they represent the only additional response resources for the state once Missouri has expended its resources. Therefore, it is important that any available literature, after action reports, response plans also be reviewed as well as interviews with key mass care subject matter experts at the regional, territorial and national levels.

Review of these plans and the evaluation of past performance will determine the specific areas of response on which the identified agencies and organizations focus their effort. Also to be determined will be the estimated population that Missouri and its partners may effectively serve, or its mass-care response capacity. Identifying the needed mass care capacity will provide the basis for the comparison of need versus current capability, thus allowing the determination of the performance gap between the two.

The identification of the current mass care response capacity is only of value when compared to the expected catastrophic threat. In this case, the mass care needs are dictated by a catastrophic seismic event along the New Madrid Seismic Zone. This comparison is made with the projected damage estimates available within the Federal

[22] Discussed in Chapter IV, subsections C and F.

Emergency Management Agency earthquake damage predictive modeling tool called HAZUS.[23] This tool provides a baseline damage estimate that includes the number of buildings damaged or destroyed, their various level of damage and the estimated number of displaced persons within the impacted area. While these numbers represent only one incidence of an earthquake and do not include any additional aftershock data, they do provide a baseline from which reasonably accurate estimates may be formed. These estimates represent the number of Missouri citizens who may require mass care support from the state and its partners.

The next step in the process is to determine the steps necessary to develop the additional mass care response capacity to bridge the gap between the current and desired level of response. This is done by analyzing the current plans and policies supporting ESF-6 seeking opportunities to increase organizational efficiency, identify new methods and developing potential previously untapped resources.

The final step is the identification of any increase in cost related to the increase in response capacity. The desired outcome is the efficient use of the available funding while gaining an increase in capability. This will be accomplished through the review of previous financial expenditures for mass care response development and assigning monetary value against any proposed initiative.

The desired outcome of this research is the development of policy recommendations resulting in more capable response operations. This will be accomplished by more clearly defining organizational roles, providing additional ESF-6 capacity through an increase in organizational coordination and strengthening of the disaster planning process. These policies must be accomplished while minimizing any projected fiscal impact.[24]

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[23] Federal Emergency Management Agency, "HAZUS-MH: Earthquake Event Report, Region Name: New Madrid Region-NEnewLQ, Earthquake Scenario: New Madrid Northeast-M7.7," (internal document, database hazard prediction tool, Federal Emergency Management Agency Region 7, Kansas City, MO, 2005).

[24] Specifics are discussed in Chapter IV, Preparedness Recommendations with particular emphasis on subsections C and D.

II. CURRENT RISKS AND VULNERABILTIES–DEFINING THE CHALLENGE

This section provides an overview of the scope of the threat posed to Missouri by the New Madrid Seismic Zone through a comparison of its historical impact and the expected impact of similar events should they occur in twenty-first century. Of specific interest is the comparison of the numbers of expected injured and displaced persons and the levels of infrastructure damage.

A. NEW MADRID SEISMIC ZONE HISTORICAL SUMMARY

The greatest natural disaster of concern for government at all levels within the state of Missouri is an earthquake along the New Madrid Seismic Zone. This fault zone is considered the highest risk in the mainland United States outside of the San Andreas Fault Zone on the West Coast. While this fault does not cause frequent damaging tremors, the underlying geology would cause destruction over an area 20 times the area of a West Coast quake. The primary discussions focus on how soon it will occur and the resulting level of damage.[25] Included in Figure 1 is a map of the area of impact of the 1895 earthquake estimated to be 6.8 on the Richter scale centered on Charleston, Missouri.[26] This map is indicative of the large geographical area under threat from the New Madrid Fault Zone.

[25] Missouri State Emergency Management Agency, "Missouri SEMA Earthquake Program," http://sema.dps.mo.gov/EQ.htm (accessed January 28, 2007).

[26] Illinois State Geological Survey, "1895 Halloween Earthquake," *Earthquake Facts 1995-1*, Illinois State Geological Survey, (1995), http://www.isgs.uiuc.edu/research/earthquake-hazards/pdf-files/eq-fct-hal.pdf (accessed March 9, 2008).

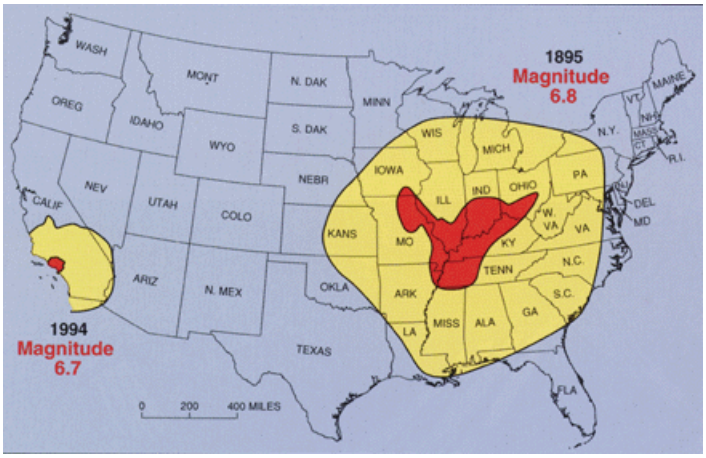

Figure 1. Regional Earthquake Impact Comparison

Figure 1 shows the impact area comparison of the 1895 Charelston, Missouri earthquake on the New Madrid Fault and the 1994 Northridge, California earthquake. Although earthquakes in the central and eastern United States are less frequent than in the western United States, they affect much larger areas. This is shown by two areas affected by earthquakes of similar magnitude-the 1895 Charleston, Missouri, earthquake in the New Madrid seismic zone and the 1994 Northridge, California, earthquake. Red indicates minor to major damage to buildings and their contents. Yellow indicates shaking felt, but little or no damage to objects, such as dishes.[27]

The intent of this thesis is to examine the current level of preparedness related to mass care response for an earthquake in the New Madrid Seismic Zone and not delve deeply in the arena of earthquake and geological science. Most experts agree that the three largest of the series of earthquakes that make up the 1811–1812 events were between 7.5 and 8.0 on the Richter scale. It is believed that more than 2,000 actual events occurred during this time period.

In the winter of 1811 and 1812, the Mississippi Valley was struck by three of the most powerful earthquakes in the history of the United States. These earthquakes centered near the town of New Madrid in southeast Missouri and devastated the

[27] Eugene Schweig, Joan Gomberg, and James W. Hendley II, "The Mississippi Valley: 'Whole Lotta Shakin' Going On," United States Geological Survey, http://quake.usgs.gov/prepare/factsheets/NewMadrid (accessed March 4, 2008).

surrounding region, ringing church bells as far away as Boston, Massachusetts. These great earthquakes altered the regional landscape, changing the course of the Mississippi River and creating the over 10-square-mile Reelfoot Lake in northwestern Tennessee.[28]

Strong scientific evidence exists that strong earthquakes in the Central Mississippi Valley have occurred repeatedly in the past. Small earthquakes occur in the region frequently. This fault zone crosses five state lines, cuts across the Mississippi River in three places and the Ohio River in two places. This fault averages 200 measured events a year. Most of these, approximately 20 per month are below 2.5 on the Richter scale and may not be felt by most people. Tremors large enough to be felt, between 2.5 and 3.0R are reported annually. Every 18 months a shock of 4.0R, or one large enough to cause local damage occurs. Events with a magnitude of 5.0R or greater occur once per decade and may be felt in several states, and a 6.0R or greater occurs every 80 years; the last of these occurred in 1895. There is now an estimated probability of 25–40 percent that a 6.0R or greater earthquake occurring within the next 50 years.[29] The majority of experts are in agreement that it is not a matter of if, but a matter of when a significant seismic event will occur along the New Madrid fault line.

B. SIGNIFICANT VULNERABILITY SHIFT SINCE 1811/1812

The population of the Mississippi Valley in 1811 and 1812 was sparse with few man-made structures and surely no structures that would rival what exists today with modern construction. The road network consisted of horse and wagon trails, and most rivers were forded or crossed via ferry. This area is now home to millions of people living and working in man-made structures of questionable seismic durability in cities such as St. Louis, Missouri and Memphis, Tennessee.

Even the rural areas of the affected states have been developed with significant populations working and living in multiple-level structures, many of which were constructed in the soft alluvial soil of the area which is known to actually magnify the

[28] Thomas G. Hildenbrand, Victoria E. Langenheim, Eugene Schweig, Peter Stauffer, and James Hendley II. “Uncovering Hidden Hazards.”

[29] Missouri State Emergency Management Agency, “Missouri SEMA.”

shock wave of an earthquake. Missouri has no state level seismic building code, so it falls to the local jurisdictions and counties to address this issue. Though most recognize that a large scale New Madrid seismic event may occur in the near future, relatively few of the communities or counties have adopted serious seismic construction building codes.

An earthquake or series of earthquakes like those of 1811–1812 striking the Mississippi Valley today would devastate the population of the area. The author has included a copy of the Modified Mercalli Intensity Scale map in Figures 2 and 3 below. This map is widely used seismic event planning tool. It indicates the predicted intensity of a New Madrid seismic event and expected damage levels.

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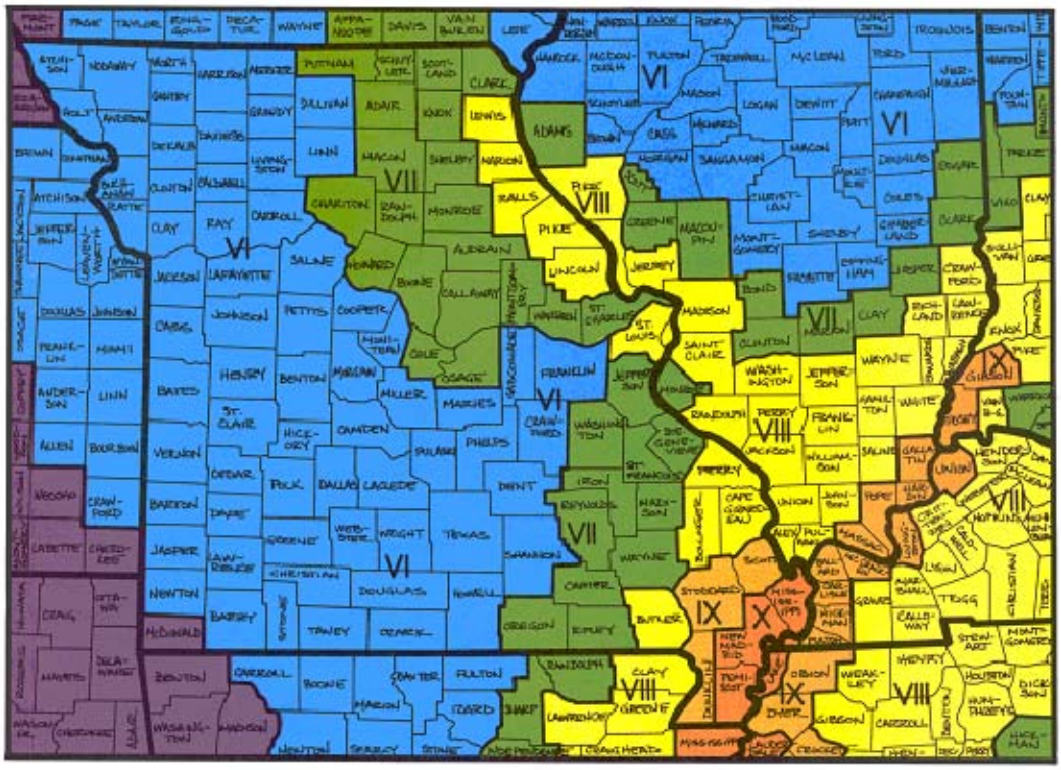
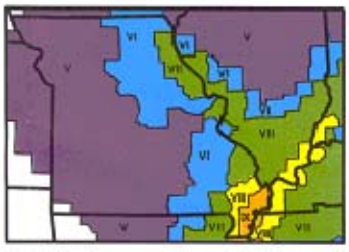
PROJECTED EARTHQUAKE INTENSITIES



This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude – 7.6 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.

6.7



This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude – 6.7 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.

7.6

This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude – 8.6 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.

8.6

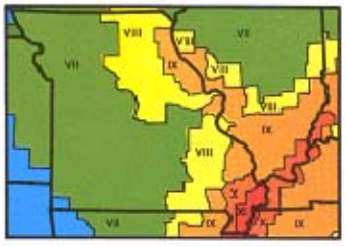


Figure 2. Modified Mercalli Intensity Scale Map

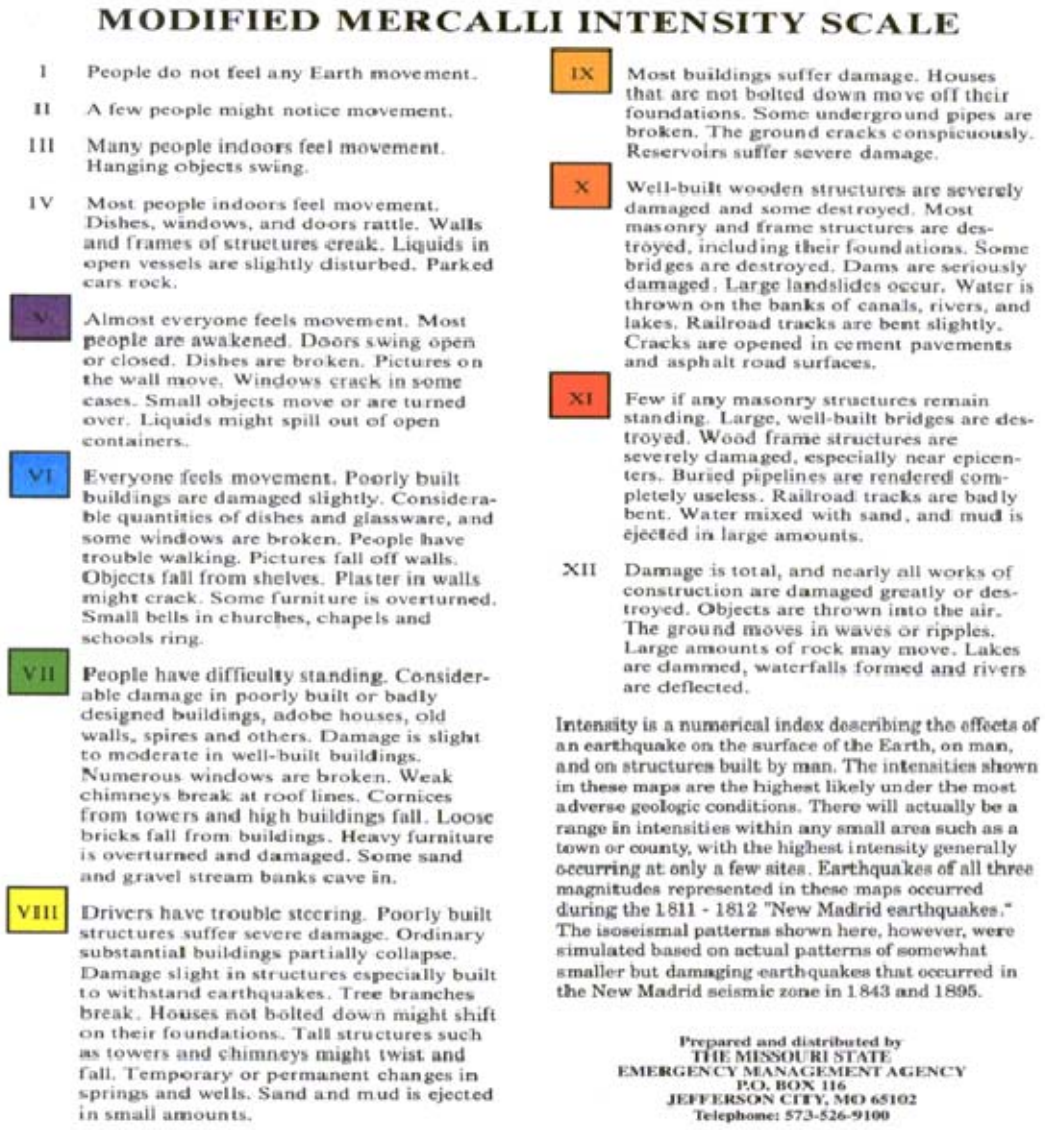

MODIFIED MERCALLI INTENSITY SCALE
I People do not feel any Earth movement.
II A few people might notice movement.
III Many people indoors feel movement. Hanging objects swing.
IV Most people indoors feel movement. Dishes, windows, and doors rattle. Walls and frames of structures creak. Liquids in open vessels are slightly disturbed. Parked cars rock.
V Almost everyone feels movement. Most people are awakened. Doors swing open or closed. Dishes are broken. Pictures on the wall move. Windows crack in some cases. Small objects move or are turned over. Liquids might spill out of open containers.
VI Everyone feels movement. Poorly built buildings are damaged slightly. Considerable quantities of dishes and glassware, and some windows are broken. People have trouble walking. Pictures fall off walls. Objects fall from shelves. Plaster in walls might crack. Some furniture is overturned. Small bells in churches, chapels and schools ring.
VII People have difficulty standing. Considerable damage in poorly built or badly designed buildings, adobe houses, old walls, spires and others. Damage is slight to moderate in well-built buildings. Numerous windows are broken. Weak chimneys break at roof lines. Cornices from towers and high buildings fall. Loose bricks fall from buildings. Heavy furniture is overturned and damaged. Some sand and gravel stream banks cave in.
VIII Drivers have trouble steering. Poorly built structures suffer severe damage. Ordinary substantial buildings partially collapse. Damage slight in structures especially built to withstand earthquakes. Tree branches break. Houses not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Temporary or permanent changes in springs and wells. Sand and mud is ejected in small amounts.
IX Most buildings suffer damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks conspicuously. Reservoirs suffer severe damage.
X Well-built wooden structures are severely damaged and some destroyed. Most masonry and frame structures are destroyed, including their foundations. Some bridges are destroyed. Dams are seriously damaged. Large landslides occur. Water is thrown on the banks of canals, rivers, and lakes. Railroad tracks are bent slightly. Cracks are opened in cement pavements and asphalt road surfaces.
XI Few if any masonry structures remain standing. Large, well-built bridges are destroyed. Wood frame structures are severely damaged, especially near epicenters. Buried pipelines are rendered completely useless. Railroad tracks are badly bent. Water mixed with sand, and mud is ejected in large amounts.
XII Damage is total, and nearly all works of construction are damaged greatly or destroyed. Objects are thrown into the air. The ground moves in waves or ripples. Large amounts of rock may move. Lakes are dammed, waterfalls formed and rivers are deflected.
Intensity is a numerical index describing the effects of an earthquake on the surface of the Earth, on man, and on structures built by man. The intensities shown in these maps are the highest likely under the most adverse geologic conditions. There will actually be a range in intensities within any small area such as a town or county, with the highest intensity generally occurring at only a few sites. Earthquakes of all three magnitudes represented in these maps occurred during the 1811 - 1812 "New Madrid earthquakes." The isoseismal patterns shown here, however, were simulated based on actual patterns of somewhat smaller but damaging earthquakes that occurred in the New Madrid seismic zone in 1843 and 1895.
Prepared and distributed by
THE MISSOURI STATE
EMERGENCY MANAGEMENT AGENCY
P.O. BOX 116
JEFFERSON CITY, MO 65102
Telephone: 573-526-9100

Figure 3. Modified Mercalli Intensity Map Legend

1. Injured and Displaced Persons

Numbers and extent of injuries suffered by those in the affected areas vary based on the time of day of the event. Injuries are categorized in four levels; level one consists of injuries that require medical attention without hospitalization, level two injuries

require hospitalization but are not considered life threatening, level three injuries also require hospitalization and can become life threatening if not promptly treated and level four victims are killed by the earthquake.

The Hazards United States-Multi-Hazards (HAZUS) predictive model report indicates that out of a regional population of 10,917,309 people, 205,637 households will be displaced.[30] Of these, 57,437 people will seek temporary shelter in public shelters.[31]

One must keep in mind that these numbers are merely the result of the HAZUS computer predictive model, and while it is considered by many to be helpful, it is not considered perfect. It is generally considered by most experts to be the best tool currently available. There are many variables involved in the prediction of earthquake impact on population. In the case of the New Madrid fault zone and its history, the most significant variable is the repetition of major shocks that are often too large to be considered aftershocks. Repetitive shocks are expected to produce cumulative structural damage rendering structures previously deemed habitable as unsafe. It is these repetitive shocks that are expected to increase the number of injuries, fatalities and displaced citizens. As these shocks continue, the number of people seeking public shelter is expected to rise. The HAZUS tool does not project losses from cascading events following an earthquake, such as fires, flooding and hazardous materials incidents.

2. Infrastructure Damage

Adding to the complication of providing adequate public temporary shelters is the destruction of a significant portion of the public infrastructure. Adequate sheltering is determined not only by the shelters themselves but also by the ability to conduct mass feeding operations and the operations of the bulk distribution networks necessary to support the subsistence of the affected population. In order to accomplish this, it is necessary to recognize and overcome the amount of infrastructure damage that is expected as the result of a seismic event of this scale.

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[30] Federal Emergency Management Agency, "HAZUS-MH: Earthquake Event Report," 3, 13.

[31] Ibid., 13.

According to the available HAZUS data, the ability to deliver resources through the traditional transportation networks will be severely challenged. The model predicts 30,314 highway bridges and 10,325 segments of highway to be negatively impacted.[32] The railroad infrastructure will also suffer with an impact on 425 railway bridges, 393 railroad facilities and 8,885 segments of railroad.[33] Rerouting critical supplies through the air is a continuous challenge for response personnel as there are limitations on the amount of material that may be moved by air. HAZUS data predicts a negative impact of a quake of this magnitude on 637 airport facilities and 720 runways, and even further restricting this capability.[34]

Also of great importance to sheltering and feeding this large number of people is the need for water, natural gas, electrical power and communication systems to support the shelters and feeding networks. The HAZUS model predicts an impact on the capabilities of 249 potable water facilities, 1,646 waste-water facilities, 114 natural gas facilities, 158 electrical power facilities and 940 communications facilities.[35]

Given the severe damage anticipated, the state of Missouri has identified two ground transportation routes from the center of the state to the predicted affected area on the eastern side of the state. One route will move material northeast toward St. Louis and the other will go southeast toward New Madrid and Cape Girardeau. These are the only two routes that can be reasonably expected to support any movement of materials into the affected area; however, they may require some repair prior to facilitating this movement. Given the expected transportation challenge for the movement of bulk distribution, it seems that individual and family preparedness initiatives prior to the event are critical for increasing the survival rate of citizens while these transportation issues are resolved.

The entire CUSEC region is under threat by an earthquake of this magnitude. The level of predicted damage is expected to dwarf current capability to effectively respond based on current response plans. The only disaster within the United States generally

[32] Federal Emergency Management Agency, “HAZUS-MH: Earthquake Event Report,” 5.

[33] Ibid.

[34] Ibid.

[35] Ibid., 6.

recognized as establishing a precedent for catastrophic events is Hurricane Katrina in 2005. While tragic, the level of destruction experienced in Hurricane Katrina does not approach the predicted level of geographic devastation expected in a New Madrid seismic event.

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III. EXISTING RESPONSE CAPABILTIES

To form a picture of the current capability, the following section examines the current strengths and weaknesses of the various governmental and non-governmental organizations involved in mass care response activities within the state of Missouri. This section is organized by levels of government and the various volunteer organizations that have been determined to be the key participants in the mass care preparedness and response system. The focus is on identifying the strengths and weaknesses of these organizations seeking areas that present opportunities to enhance mass care response. Figure 4 below outlines the disaster response structure for ESF-6 at the state level as it is currently defined.

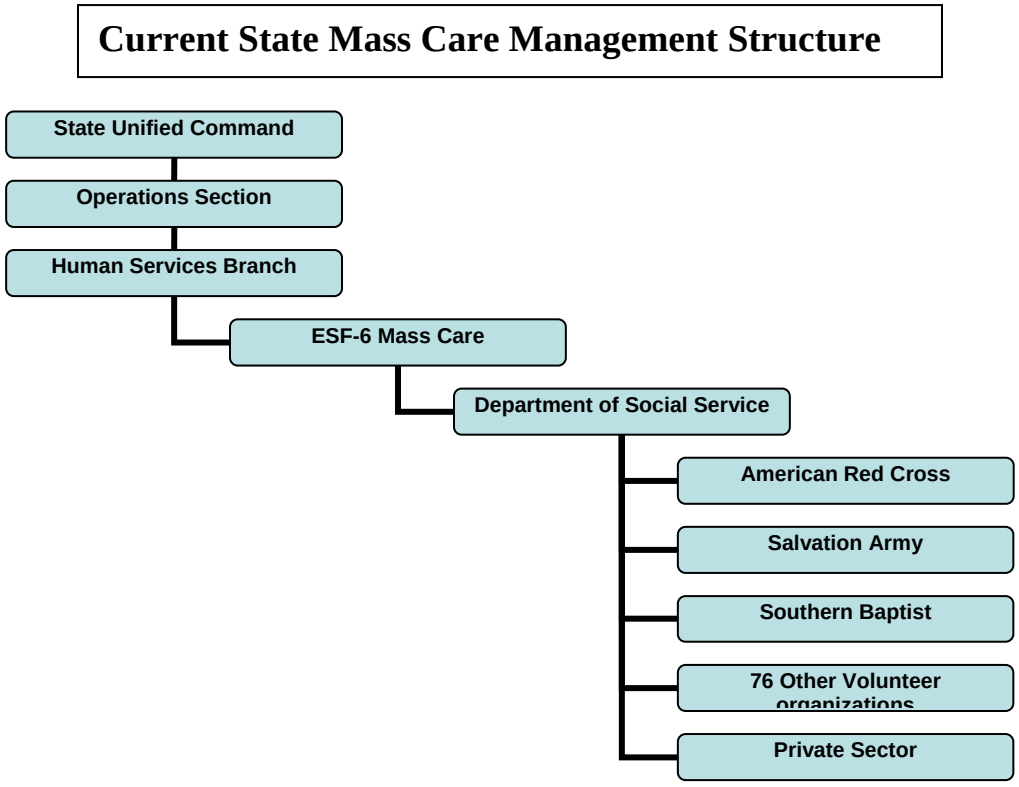

Figure 4. Current State Mass Care Management Structure

A. STATUS OF CURRENT MISSOURI GOVERNMENTAL PROGRAMS

Due to the recent impact of several weather related disasters within the state of Missouri, there has been improvement in the overall mass care response capability through repeated response. This has been ad-hoc and reactive, not part of an overall deliberate planning and preparedness effort. While the state had positive results, this improved capability does not approach the response levels necessary for a catastrophic disaster.[36]

The Missouri State Emergency Operations Plan (SEOP), dated October 2006, is similar to the federal plan. It has an all-hazards format designed with the flexibility necessary to address the various hazards or threats that may be encountered within the state. The challenge encountered when writing all-hazards plans is the need to include sufficient detail to be effective while allowing enough flexibility to address the various expected hazards. To address this challenge in the SEOP, the state of Missouri published Annex Y in October 2006. Annex Y is a hazard-specific annex providing more detailed planning guidance to address the New Madrid earthquake threat. The SEOP designates the Department of Social Services (DSS) as the lead state agency responsible for the ESF-6 function. As with the NRF and FEMA, the state and DSS rely on the ARC and other Volunteer Agencies (VOLAGs) for the execution and coordination of sheltering, feeding and bulk distribution mission during times of disaster. [37]

The SEOP Base Plan contains six lines addressing the mass care function, assigning specific preparedness responsibilities to the Department of Social Services.[38] The responsibilities specifically cited include: the identification of suitable facilities for feeding and lodging for both the civilian population and institutionalized groups under state control, the establishment of test or exercise procedures for mass care, the

[36] Dante Gliniecki (Missouri State Emergency Management Agency, State Volunteer Coordinator), interview by author, February 15, 2008.

[37] Missouri State Emergency Management Agency, *Emergency Operations Plan* (rev.), (Jefferson City, MO: Missouri State Emergency Management Agency, 2006).

[38]Missouri State Emergency Management Agency, "Attachment B, Appendix 3" in *Missouri State Emergency Operation Plan* (rev.), (Missouri State Emergency Management Agency, Jefferson City, MO: 2003).

establishment of liaisons with outside organizations such as the Red Cross and the Salvation Army, coordination of their work on the SEOP and assistance in the planning for food and water availability.

Annex I of the SEOP contains more detail concerning specific preparedness functions such as the identification and selection of available shelter locations, inventory of equipment and supplies, preparation of distribution networks for food and water, the identification of responsible agencies for specific response activities and the formulation and review of plans and standard operating guidelines (SOG) for state support to local mass care operations. While these functions are identified and assigned, they are identified strictly on the macro-planning level and lack sufficient detail to allow for a planned response, such as the identification of a target capability for the population to be sheltered. The challenge is to further develop the plan through the addition of supporting standard operating guidelines written in sufficient detail to provide the guidance necessary to successfully accomplish all of the tasks to provide the public with support during time of disaster. The tasks of primary concern are shelters, bulk distribution of food, water and critical supplies and mass feeding stations. The author was unable to locate any official SOGs at the state level with this sufficient level of detail. These tasks are carried out by the membership of the Missouri Volunteer Organizations Active in Disaster (MOVOAD) consisting of 79 separate volunteer organizations. DSS is expected to manage this through a flat organizational structure through which all of these organizations report directly to DSS.

The state-developed Annex Y of the SEOP as a threat specific plan to address the threat posed by the New Madrid Seismic Zone with Appendix 5 to Annex Y targeting the mass care function. The current version of this document is intended to address the operation of Red Cross shelters both inside and outside of the affected area. Shelters inside the affected area are intended to provide immediate shelter for those who have lost their homes either through total destruction or were deemed unsafe for occupancy. Residents will usually gravitate toward staying with family or friends rather than public

shelters. Shelters located within the state outside the affected area tend to receive evacuees from within the affected area that are left without family or friends that might be able to assist them.

The addition of the "stand alone" or threat specific plan in the form of Annex Y located within the "all-hazards" planning model through which the state SEOP was originally designed is counterintuitive and may lead to confusion by personnel accustomed to either the individual threat planning model or the all-hazards planning model The current level of detail in the SEOP coupled with the lack of supporting SOGs results in a plan that does not provide adequate guidance for a mass care response to a catastrophic disaster.

One area of concern identified by Dante Gliniecki was the lack of full time preparedness personnel assigned to the state-level Emergency Support Functions (ESFs).[39] It is up to the individual agencies assigned with primary responsibility for each of these ESFs to develop SOGs and ensure the proper level of preparedness and coordination with their assigned support agencies. Only two ESFs were identified for which full-time state personnel were assigned.[40] The balance of the ESFs were assigned one or two part-time personnel who are expected to accomplish all aspects of mitigation, preparation, response and recovery operations related to the assigned ESFs. In Missouri, ESF-6 has only two mid-level managers and one employee assigned emergency management responsibilities from the Department of Social Services as a portion of their responsibility on a part-time basis. These personnel have a considerable number of other responsibilities that undoubtedly distract them from their roles in ESF-6.

This lack of task-dedicated personnel is a long-standing challenge faced by emergency management as a whole and is not isolated to ESF-6. When elected and appointed officials are faced with the decision of allocating resources between current existing daily challenges or future hypothetical challenges that may occur, such as disasters, they usually allocate the available resources to the existing daily challenges.

[39] Gliniecki, interview, 2006.

[40] ESF 5 Emergency Management and ESF 8 Health Care were the only two ESFs identified with sufficient staff to effectively plan and prepare for their roles in a disaster.

This places a significant burden on too few personnel to adequately address the challenges of preparing for disasters. It is unlikely that the Department of Social Services can reasonably expect two, part-time mid-level managers and one entry-level employee to successfully accomplish all tasks related to mass care preparedness and response for a potential disaster sheltering requirement of tens of thousands of citizens within 47 counties.

The state of Missouri does not currently have specified strategic goals or target capacity in its mass care program. This lack of strategic guidance, in conjunction with the simultaneous employment of two planning modalities within the state emergency operations plan, both of which are incomplete, contributes to inadequate guidance and confusion in the preparedness and response efforts. The other concern of the author is the insufficient number of state departmental personnel and fiscal resources dedicated to preparing the individual state agencies for catastrophic disaster response.

B. STATUS OF CURRENT MISSOURI NON-GOVERNMENTAL PROGRAMS

Missouri's non-governmental partners are a mixture of volunteer organizations that range from those with significant disaster response experience that are relatively organized to those that are inexperienced and purely reactive in nature. The challenge is to effectively coordinate the efforts of these organizations to maximize the efficiency of their services to the public while minimizing redundancy in this service. It is from this perspective that one begins with the management of volunteer disaster preparedness at the state level with the Governor's Disaster Recovery Partnership.

1. Governor's Disaster Recovery Partnership

The formal organization not named in the SEOP is the Governor's Disaster Recovery Partnership. The partnership is a governmental entity and non-governmental cooperative workgroup. It is the primary means for the state to interact with organizations involved in mass care disaster management and recovery as the partnership includes government at the federal, state and local level as well as not-for-profit, voluntary

organizations and other organizations such as community action programs. Given the mission tasked in the Governor's Executive Order creating this organization, it is unclear as to why it is not mentioned in the formal SEOP.

The Disaster Recovery Partnership was created by an Executive Order after the Great Flood of 1993 to improve the coordination of response to the overwhelming human needs caused by that event. The Partnership was reaffirmed by Executive Order 03–23 in December 2003. As charged in the Executive Order, the Partnership's responsibilities are:

- Reviewing and implementing, as appropriate, the recommendations of the original Disaster Recovery Partnership;
- Reviewing the human services disaster response and recovery delivery methods with a goal of improving service to the citizens of Missouri;
- Designing methods of more rapid collection and analysis of data on disaster victims and their needs;
- Developing a simplified intake system linked to centralized databanks to improve human services response and recovery services;
- Establishing more rapid and complete communications to disaster victims and caregivers during emergency response and recovery stages;
- Promoting, training and supporting local committees, similar to the local unmet needs committees formed during the flood of 1993, with additional attention to the establishment and representation of community Citizen Councils; and
- Functioning as a statewide Citizen Council for the state of Missouri, with support to the Homeland Security Council on post-disaster human service issues. [41]

The role of the Governor's Disaster Recovery Partnership should be expanded to provide more strategic guidance for the development of the mass care preparedness and

[41] Missouri State Emergency Management Agency, "Government, Faith-Based and Community Partnership," http://sema.dps.mo.gov/CC%20Webs/CCstatecouncil.asp (accessed July 25, 2007); Missouri Secretary of State, "Governor's Executive Orders, Executive Order 03-23,"(2003) http://www.sos.mo.gov/library/reference/orders/2003/eo03_023.asp (accessed November 11, 2008).

response functions in catastrophic events. The implementation of this guidance should be a coordinated effort between the Department of Social Services and the Missouri Volunteer Organizations Active in Disaster.

2. Missouri Volunteer Organizations Active in Disaster

The non-governmental volunteer agencies mentioned in the state plan are grouped together under the Missouri Volunteer Organizations Active in Disaster (MOVOAD). The plan contains a short overview of the MOVOAD, and lists six of the key disaster players.[42] Out of the six organizations listed in Annex I (Mass Care), Appendix 1 (MOVOAD), only the American Red Cross and the Salvation Army (TSA) have any responsibilities mentioned within the annex. The Red Cross is charged with the provision of food, clothing, shelter, crisis counseling, welfare inquiries, the training and coordination of volunteers and other services as needed. The Salvation Army is charged with mass feeding, sheltering, spiritual counseling and other mass care needs.

The MOVOAD is represented in the partnership providing volunteer organizations a voice in the establishment of policy relevant to the mass care function. The MOVOAD is an organization that allows all volunteer organizations[43] to have an association to address their own issues.[44] Representatives of state government, such as the Department of Social Services, are welcome to attend the MoVOAD meetings as ex-officio members. This is important to DSS as coordination and planning with the MoVOAD membership has a direct impact on their success in providing mass care during times of disaster.

Member organizations of the MOVOAD with the most significant role in disaster response and recovery, such as the Red Cross, Salvation Army and the Southern Baptist Convention, occupy seats within ESF 6 in the State Emergency Operation Center and

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[42] Missouri State Emergency Management Agency, "Annex I, Appendix 1" in *Missouri State Emergency Operations Plan* (Jefferson City, MO: Missouri State Emergency Management Agency, 2006).

[43] The MOVOAD not only includes the Salvation Army, American Red Cross and Southern Baptist Convention, but also all of the major faith-based groups and some private sector not for profit organizations.

[44] Gliniecki, interview, 2006.

assist DSS in the coordination of mass care. They include the other MOVOAD member organizations during times of disaster. At the community and or county level within the state, the Community Organizations Active in Disaster (COADs) serves as a local version of the MOVOADs. Their membership is similar to the MOVOADs, but they may include local government and private sector partners. There are approximately 25 COADs in operation within the state.[45]

Mass care disaster response is currently managed in an ad-hoc manner with the ARC and other officially recognized local organizations responsible for sheltering opening a few pre-designated shelter locations within impacted areas. Other local volunteer organizations such as churches soon follow with additional shelters. Unfortunately as is often the case, the local and state emergency management organizations are not aware of these additional shelters. As the local volunteer organizations strain to sustain the logistical support for their operations, they are forced to turn to the local and state government for resources, often with incredibly short delivery timelines. Failure to meet these timelines may result in shelters without necessities such as food, water, blankets or heat.

The second major challenge created by the well-meaning charitable organizations with their emergent shelters is that the majority of the personnel managing these shelters are not adequately trained to meet the Red Cross and Salvation Army shelter guidelines.[46] At this time the only organization conducting staff training for disaster shelter operations within Missouri is the ARC, which conducts classes at a rate of five per year. This training rate is marginal, at best, for sustaining the current number of qualified shelter volunteers and insufficient for increasing shelter capacity.[47] This decreases the chance for success and can result in forcing the ARC to assume responsibility for the

[45] Missouri Disaster Recovery Partnership, *State of Missouri Community Organizations Active in Disaster (COAD) Guidance Manual* (rev.), (2002) http://sema.dps.mo.gov/COAD.pdf (accessed August 1, 2007).

[46] The American Red Cross Shelter Guidelines are considered the minimum acceptable standers for the operation of disaster shelters within the state of Missouri.

[47] Melissa Friel, Missouri State Capital Region Director and State Coordinator for the American Red Cross, Interview by author, February 22, 2007.

operation of these troubled shelters, which contributes to system inefficiency, deficient quality control and duplication of effort within the sheltering and bulk distribution systems.

3. American Red Cross

For many years, the American Red Cross (ARC) has been the organization that formed the cornerstone of the mass care response and recovery effort within the state of Missouri. Ms. Melissa Friel is the ARC Disaster Liaison for the state of Missouri, as well as the Capital Area Chapter Executive Director. During her interview, Ms. Friel cited the emergency management maxim, "All disasters begin and end at the local level."[48] It is with this philosophy that the ARC has established its business model with the majority of its focus at the chapter or local level.

Chapters are responsible for managing mass care functions at the local level for the first three to five days of the event. Chapters open and manage shelters, provide fixed and mobile feeding stations, ice, water and immediate family assistance that may also include clothing, blankets, medications or other necessities. The chapter notifies the ARC "service area" of the event, and the service area offers additional support in the form of personnel and logistics as needed.[49] If the chapter is able to provide sufficient ESF 6 resources to effectively meet the needs of the affected community, leadership and management of the event remains at the chapter level.

When the local needs exceed one or more chapters' support capabilities, the service area provides additional personnel, logistical and management support. The service area in effect becomes the regional resource structure for ARC activities in the affected area. The service area operation takes time to establish and begins with the call-up of available resources within the service area itself. If the operational needs of the Red Cross exceed the capability of the chapter to meet those needs even with service area support, National American Red Cross will establish a disaster relief operation under its

[48] Friel, interview.

[49] The ARC service areas are regional bodies made up of several states and may act as a regional management and resource structure. The service area that includes Missouri consists of seven states.

direction and control. These disaster relief operations are called DROs. These DROs meet the needs of the relief operation during peak activity and eventually phase the operation back to chapter management.

Since the main strength of the ARC resides within the chapters and service areas, it is of some concern that within the last few years the state of Missouri has observed the number of Red Cross Chapters reduced from 125 to 13. The ARC seems comfortable with this reduction in the number of chapters and views the change as a move toward a formal regional structure within the state, establishing the ARC units as regional chapters. From the ARC perspective, this concept facilitates a more even distribution of resources throughout the state as the preparedness, response and recovery effort for each region are coordinated by each regional chapter. In previous years, assistance was hindered by the amount of money and resources available to each chapter. The more affluent urban chapters were in a much better position to support their constituents than the chapters in the more rural areas of the state.[50]

After the 2004 hurricane season, the ARC recognized the need for more detailed, stronger agreements with other organizations that may assist in disaster response. These agreements are in the form of memorandums of understanding (MOU) existing not only with the Salvation Army and Southern Baptist Convention but with hundreds of other organizations such as the Girl Scouts, NAACP, Urban League and the Boy Scouts. This recognition for the need for formal alliances is to be commended as it promotes coordinated disaster planning and preparedness.

The ARC has adopted a formal partnership strategy outlining a new responsibility to be a convener and supporter of other organizations as well as maintain its role as a provider of direct service provision.[51] As part of this formal strategy the ARC has more clearly defined what constitutes a shelter. When asked, Ms. Melissa Friel of the ARC outlined the various levels of shelters as follows:

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[50] Friel, interview.

[51] "Connection Preparedness and Response," *ARC Newsletter*, No. 2006-012, (2006).

> The Red Cross started to realize that disaster response needed to focus on better results for disaster victims, rather than rigid and procedure driven systems. This evolution started occurring in 2004, driven home again after Hurricane Katrina. Experienced shelter organizations such as the ARC and The Salvation Army (TSA) had not yet developed sufficient flexibility to effectively address spontaneous shelters run by less experienced volunteer organizations. In light of the lack of flexibility these organizations are now evolving even further for example; there are now four definitions of Red Cross shelters.
>
> The first is a pure Red Cross shelter, opened, managed and supported by the Red Cross.
>
> The second is a partner shelter. The partner agency and or organization (for example, a church) will open and run their own shelter. The Red Cross will support this shelter 100 percent. They provide the cots, blankets, food, etc., based on the requests of the partner agency. If the partner agency shelter is damaged, the Red Cross pays for repairs. The Red Cross also reimburses the partner shelter for expenses incurred through running the shelter. This type of shelter requires a shelter agreement signed by the partner agency and the Red Cross, which also provides the partner agency with shelter operation training.
>
> The third type of shelter is a community shelter where the partner organization assumes all responsibility for the shelter and the Red Cross might provide food or material resources.
>
> The final type of shelter is one not supported by the Red Cross. This is a shelter that only allows its members to be in the shelter, for example a church that allows only its parishioners in and keeps those in need out of the shelter. This is in direct opposition to the fundamental principles of the Red Cross, so the Red Cross would not provide any support to this type of shelter.[52]

The Missouri Capital Area Chapter, as an example, is responsible for 20 counties and currently has approximately 225 volunteers supported by seven full-time ARC staff members. Approximately 97 percent of ARC personnel are volunteers.[53] There are several counties that are supported by ARC teams from outside their chartered counties.

[52] Friel, interview.

[53] Ibid.

This equates to approximately 11 volunteers per county in one of the stronger ARC chapters in the state. These figures are based on all of the ARC volunteers and staff being available for disaster response. For planning purposes the ARC assumes that only 35 percent of their volunteer staff and 50 percent of their leadership will be available for any given disaster response.[54] This figure declines the longer a disaster continues. This translates to a maximum of 129 chapter personnel available within the chapter with six personnel available for each county within the chapter. These percentages are based on Missouri disaster response to date. It is difficult to accurately estimate the impact a catastrophic event on the scale of a New Madrid seismic event on the ARC's personnel.[55]

With a current ARC initiative establishing the goal of each chapter to adequately shelter 10 percent of their resident population; it is evident that the previously discussed inter-voluntary agency agreements are critical to the success of the ARC and ESF-6 response. In the event of a New Madrid type of catastrophic event, the ARC's capability would be severely challenged, as was the case in the Hurricane Katrina response.[56] In response to a need identified as a result of Hurricane Katrina, FEMA and the ARC are currently building a national shelter database identifying the location of the local facilities currently identified as shelters. The development of the ARC National Shelter System (NSS) database is a significant step in preparing for another catastrophic event, but the results are limited as the database only contains ARC Type 1 shelters, leaving the issue of supporting shelters managed by the other volunteer organizations outside of the system still in question. Other mass care facilities, such as feeding kitchens, feeding sites and bulk distribution sites are not currently included in the database.

The pre-disaster identification of shelters will assist with organizing the bulk distribution of supplies for these shelters. The distribution of supplies, mobile and fixed feeding sites and other ESF logistical needs are still dependent upon the establishment of points of distribution (PODS) as the disaster unfolds. This approach is better suited for

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[54] Friel, interview.

[55] Ibid.

[56] Ibid.

the typical Missouri riverine flooding and disasters that develop slowly or are forecasted. Catastrophic events that occur without warning create a certain level of chaos that inhibits an ad-hoc approach to resource delivery.

A bulk distribution plan for each region, county and local jurisdiction would provide a baseline organizational structure from which deviation could be made as needed in a more efficient and organized manner. Effective planning templates for bulk distribution have been developed by the Army Corps of Engineers (ACE). There are three levels of PODs with floor plans for each level. The staffing of these PODS is currently NOT assigned to any agency, public or private, at any jurisdictional level. Conversations are underway between the State Emergency Management Agency and the Southern Baptist and between SEMA and the Convoy of Hope to address the staffing needs of PODS. Even though the ACE-PODs program holds promise for improved resource distribution at the local level, significant work remains in the development of the logistical movement plan that supports the movement of state and federal supplies across the state to these PODs.

The ARC is arguably one of the strongest partners of the state when it comes to the provision of sheltering and feeding support during time of disaster. It has the most aggressive formal training and preparedness programs and evacuee and shelter tracking systems identified. Of concern is the decline in paid and volunteer staffing forcing it to restructure, the limited number of annual shelter management training courses it can conduct as well as the incomplete status of its evacuee tracking system. The ARC should be given overall responsibility for sheltering operations under the supervision of the Department of Social Services. This responsibility would include guiding all of the other volunteer organizations that have chosen sheltering as their contribution to the disaster response.

4. Salvation Army

The primary ESF-6 mission of the Salvation Army (TSA) within the state of Missouri is the provision of both fixed and mobile mass feeding facilities. TSA responds to disasters using the National Incident Management System with a “bottom up”

approach to disaster management. Like the ARC, TSA considers disasters to be local events and are managed from a TSA Command Center at the division level. TSA operates two divisions within the state of Missouri. The Kansas and Western Missouri Division incorporates several counties in western Missouri including the Kansas City area, and the Midland Division based in St. Louis that includes the balance of the state.

The local TSA resources initially respond within the local jurisdiction with the division joining the response once the locals determine the need for more resources than the locals can provide. The division assumes command and control of the TSA operations, drawing upon the divisional resources until it is determined that they will prove insufficient. Resources requests are then made to TSA national headquarters and national coordinated resource deployment from the other division around the nation. These national resources are operationally controlled at the division level in the affected area.[57]

Recognizing the need for unity of effort and positive control of resources, the TSA Division deploys liaison staff to both the emergency operations centers at the local and state levels. As in the case of the ARC, TSA is a core member of the local planning effort, any applicable COADs and the state MOVOAD.

Due to the organization's experience in dealing with shelter operations for the homeless on a daily basis, TSA is capable of establishing and operating a limited number of emergency shelters. Due to the depth of its involvement in the resource intensive operations of mass feeding and bulk distribution, it views its capability as limited and it is occasionally used to supplement the ARC shelters if needed. A recent positive development is TSA's adoption of the ARC Shelter Management Course and Shelter Simulation courses as the standard for its sheltering services.

As stated earlier, TSA's mass feeding capability is a critical life saving tool in the state's disaster response tool box. In the case of a New Madrid event, it is imperative that mass feeding operation be established as soon as possible as the expected wide-ranging

[57] Dee Smith (Salvation Army, Kansas and Western Missouri Division, Director of Emergency Disaster Services), interview by author, January 10, 2007.

power outages and number of lost and uninhabitable structures will make obtaining potable water and food difficult at best. While the state will undoubtedly encourage those without habitable homes to evacuate the area, it is likely that a significant number of victims will resist choosing to stay in the area. This will place additional pressure on the mass care function. Of particular concern are the more urban areas where open cooking fires and camping can cause additional fire hazards and sanitation concerns.

TSA has considerable experience in responding to large-scale disasters including the Midwest Flood of 1993 and Hurricane Katrina. Its formal planning processes, level of preparedness, and dedicated staff are an effective combination. Developing and maintaining an adequate response capability for a New Madrid event is simply beyond the resources of any single organization. Like the ARC, TSA is an effective partner and as such brings an organized preparedness system and trained responders to the overall disaster preparedness process. These partner's capabilities and processes should be included in future ESF-6 development, built upon and expanded.

The Kansas and Western Missouri Division has the maximum capability to produce 42,500 meals per day. This is based on the assumption that another division would assume the daily duties of those personnel and equipment within the Kansas City Metropolitan area, as no reserve would be left behind.[58] Assuming that the Midland Division has a similar capacity and its resources are still available at a 100 percent capability following the New Madrid event (this may be a stretch), this is only a maximum capability of 85,000 meals per day or enough for 28,334 victims statewide. It is questionable if this number is sufficient to feed even those requiring service in the St. Louis area. This is where the Southern Baptist Convention (SBC) and its mass feeding capability are required. Beyond a base mass feeding capability, formal detailed agreements are necessary when merging the capabilities of two or more organization of this size. Kevin Ellers, a Territorial Disaster Coordinator with TSA indicates that TSA recognizes the need for detailed, formal agreements between disaster response volunteer organizations.

[58] Smith, interview, 2007.

> Most of our MOUs with other volunteer organizations are general in nature without the inclusion of specific responsibilities or agreements. The most specific one is the MOU we have with the Southern Baptist, because they prepare the food for us and we distribute it, which is pretty detailed.[59]

This ARC and the SBC MOU is actually one of the most detailed collaborative volunteer organization type MOUs in existence.[60] This MOU spells out in great detail the process for cooperation in several areas (i.e., mass feeding, disaster and child care) and covers detailed methods of cooperation that include reimbursement for food and other costs. TSA and SBC use the same basic SBC/ARC MOU as the foundation for their own MOU. These agreements are considered "best practices" and are encouraged as models for other volunteer organizations.

The TSA 's strength lies in its ability to provide large-scale feeding operations, support these operations through its bulk distribution network and effectively partner with other organizations. TSA should be given overall responsibility for mass feeding operations under the supervision of the Department of Social Services. This responsibility would include guiding all of the other volunteer organizations that have chosen mass feeding as their contribution to the disaster response.

5. Southern Baptist Convention

The Southern Baptist Convention (SBC) role within ESF-6 is the provision of primarily fixed mass feeding sites in support of the Salvation Army and American Red Cross. The SBC defines its primary mass care mission as feeding people and the distribution of food products throughout the nation and internationally. The SBC is a highly motivated and dedicated volunteer organization with a significant amount of mass care feeding experience. As such the SBC has the capability to respond to a disaster assistance request with a physical presence on the disaster scene within 24 hours.[61]

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[59] Kevin Ellers (Salvation Army, ELO/ELF Central Territory, Territorial Disaster Coordinator), interview by author, January 10, 2007.

[60] American Red Cross and the North American Mission Board, Southern Baptist Convention, statement of understanding effective September 1, 2007 through December 31, 2011.

[61] Danny Decker (Southern Baptist Convention, Missouri State Director), interview by author, January 31, 2007.

The SBC is managed at the national level by the North American Mission Board (NAMBD) disaster relief program. Like its sister organizations the ARC and the Salvation Army, it is managed by a few managers at the national level with its main strength focused at the state and local level.[62] The NAMBD has approximately 100 feeding units that have an estimated feeding capacity of 750,000 meals per day. While this is a tremendous capability, when one considers that this catastrophic event affects eight states, this translates into a capability to feed approximately 31,250 people three meals per day in each of the eight impacted states. This solution also requires the total commitment of the NAMB resource pool leaving no reserves for other more routine obligations throughout the nation.[63]

As an outgrowth of the NAMB feeding stations becoming a hub of activity, the Southern Baptist Convention is also involved in the bulk distribution of resources that support the feeding operations as well as meeting some of the basic human needs of the disaster victims. These resources often come from donations from other churches from other parts of the country and are in the form of food, ice and drinking water. The Southern Baptist partner with the ARC and the Salvation Army to provide a "one-stop-shop" for food, bulk distribution, chaplain services et cetera, developed around a site they are administering.[64]

When directly asked if the maximum capability of the NAMB would be sufficient to address the mass feeding requirement posed by a catastrophic New Madrid seismic event, Director Caison responded:

> I am very doubtful that we could. We supported emergency management in Houston and put in 2 or 3 kitchens in order to cook. We worked with our local associations and churches and even though they did not have mobile feeding units between their kitchen and between local resources, our volunteers stepped into those centers and started working as well, so we mobilized a lot of volunteers across the United States to meet the needs. The numbers that we are looking at with a New Madrid incident are

[62] There are currently 42 state conventions.

[63] Mickey Caison (Southern Baptist Convention, Adult Volunteer Mobilization Director for the North American Mission Board of the Southern Baptist Convention), interview by author, February 8, 2007.

[64] Caison, interview.

> exponentially higher that what there was coming out of New Orleans. If we bring in the 45,000 Southern Baptist Churches across the United States, we would be able to help, but we are not going to be prepared or have a plan.[65]

The NAMB continuously seeks ways of improving its capability to provide disaster support. It is currently looking at more efficient and effective ways to partner with other organizations that are like-minded and have similar missions. They include Convoy of Hope, Operation Blessing, Samaritan's Purse and the Billy Graham Association to mention a few.

The Southern Baptist Convention has a focused mass feeding mission and is organized to maximize its resources. Formal partnership with the TSA, and to a lesser extent the ARC, should form an effective large-scale mass feeding capability within the state. Combining the internal bulk distribution capabilities of the Southern Baptist Convention and the TSA with the distribution capability of the Convoy of Hope should provide sufficient resource support to insure continuous feeding operations within the affected disaster area. The Southern Baptist Convention should be given the responsibility to assist TSA in the management of mass feeding operations.

6. Convoy of Hope

A newly energized partner in disaster preparedness and response in Missouri is the Convoy of Hope. The Convoy of Hope is a faith-based charitable organization formed in Springfield, Missouri in 1994 by the now president Hal Donaldson as an outreach program providing groceries, assistance finding jobs and presentation of the gospel. The program's city-wide success soon led to the Convoy of Hope becoming a global organization impacting the lives of nearly 16,000,000 people in 26 countries. Since its inception the Convoy of Hope has distributed over $100,000,000 worth of food to people in need.[66]

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[65] Caison, interview.

[66] Steve Irwin (Convoy of Hope, Associate Director, U.S. Disaster Response), interview by author, December 5, 2009.

A member of the National Volunteer Organizations Active in Disaster (NVOAD) the Convoy of Hope has agreed to provide service on an as needed basis. The Convoy of Hope does not have a large number of formal agreements or memorandums of understanding or agreement (MOU/MOA) with its faith-based partners. Instead it operates on a more flexible response system by providing resources upon request. The exceptions to this modality are the states of Florida and North Carolina. The Convoy of Hope has formal MOUs with these hurricane prone states, and the Convoy of Hope has been included in these state's preparedness plans. [67]

Based out of Springfield, Missouri with expertise in the international distribution of goods, the Convoy of Hope seemed a natural fit for the Missouri disaster preparedness effort. The State-wide Volunteer Coordinator requested the Convoy of Hope's assistance in the program in 2006 and since that time the Convoy of Hope has assisted Missouri in disaster response work focusing on bulk distribution. It is the State-wide Volunteer Coordinator's intention that the Convoy of Hope will assume the role as the primary provider and responsible volunteer organization for the bulk distribution mission.[68]

The Convoy of Hope is a lean organization with approximately 100 staff with the ability to rapidly expand and contract as needed during time of crisis. During disasters, the national headquarters in Springfield becomes the central point of management. Liaisons are placed with FEMA and the affected state emergency management agency/organization. The strategy is that coordination will be accomplished through a network of churches and faith-based organizations with the Assembly of God forming the primary backbone of the structure.[69] The Convoy of Hope relies heavily on volunteer teams or groups formed among partner churches. These groups make the entire process work and allowed the Convoy of Hope to reach the level of success that it has achieved in its relatively short history.[70]

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[67] Irwin, interview.

[68] Dante Gliniecki, Missouri State Emergency Management Agency, State Volunteer Coordinator, Interview by author, December 5, 2009.

[69] Irwin, interview.

[70] Convoy of Hope, "Church Connection," (2008) http://www.convoyofhope.org/go/church (accessed December 23, 2008).

While relatively new to disaster response, the Convoy of Hope has demonstrated the ability to provide the distribution of bulk resources. A fairly lean organization, it relies on its ability to expand and contract in size to meet its distribution obligations. The formal inclusion of the Convoy of Hope in the Missouri disaster program through MOU/MOAs and partnered with the TSA, ARC and Southern Baptist convention should result in an expanded distribution network capable of supporting the mass feeding network.

The current capability of the Convoy of Hope will have to be greatly expanded to meet the projected bulk distribution needs projected for a major New Madrid event. The inclusion of the other faith-based organizations also residing within the state is necessary to maximize the state ESF-6 response capability. The Convoy of Hope should be given overall responsibility for bulk distribution operations under the supervision of the Department of Social Services. This responsibility would include guiding all of the other volunteer organizations that have chosen bulk distribution as their contribution to the disaster response.

7. Other Volunteer Organizations

Faith-Based Disaster Recovery Organizations involve a wide range of both religious and secular human services agencies that carry on collaborative, cooperative and coordinated work to meet the unmet disaster needs of vulnerable populations. These organizations have become accepted and vital components in restoration of communities following disasters.

An unusual phenomenon occurs naturally following disasters. There are often more volunteers available than opportunities for which to volunteer. This is also true for catastrophic disasters for the initial response period, which is usually a few days immediately following the event. This is usually due to the fact that most of these volunteers are altruistic but untrained and unaffiliated. Unaffiliated, spontaneous volunteers usually prove a burden to disaster response as emergency managers and incident commanders generally seek the skilled, trained, vetted volunteers necessary to

successfully provide services to an affected area. Church or community groups will often open a shelter, only to become overwhelmed by the amount of work that is involved in successfully managing a sheltering operation.[71]

The ARC currently trains Disaster Services Human Resources (DSHR) volunteers all across the country because it understand there is no better way to accomplish a task than with trained, healthy volunteer staff with realistic expectations. The ARC does not have adequate resources to provide this training in the volume required for most states to reach a 10 percent shelter capacity that the Missouri Statewide Volunteer Coordinator recommends.

Faith-based organizations (FBO) capitalize on what people of faith already desire, that is to provide protection for themselves through individual preparedness and continuity of operations planning for the FBO. FBOs that are prepared and able to maintain continuity of operations during times of disaster it is in a much stronger position to provide aid to the surrounding community.

Within this context, the FBOs must be given the knowledge and tools to better equip themselves, their membership and to take ownership of and responsibility for the phases of emergency mitigation, preparedness, response and recovery. If an FBO is ill prepared as an organization itself, the membership will suffer along with the community. The success of every shelter is important to the overall mission of ESF-6. Other volunteer organizations that should not be overlooked when considering mass care preparedness are groups such as the Moose, Elks, Eagles, Shriners, Masons, Veterans of Foreign Wars (VFW) and the Marine Corps League, just to name a few. While these organizations are not faith-based, they are altruistic and community spirited in nature and should prove eager preparedness partners if given an opportunity with the appropriate level of structure and support. These groups are part of the process within the preparedness plans of some local communities, but remain an untapped resource in the majority of local plans.

Many of the volunteer agency integration techniques outlined in Chapter IV under the heading D in subheading c, the inclusion of faith-based organizations portion of this

[71] Gliniecki, interview, 2006.

thesis will also apply to these organizations. Figure 5 below demonstrates the current level of Missouri Mass care capability compared to the target of 10 percent of the affected population.

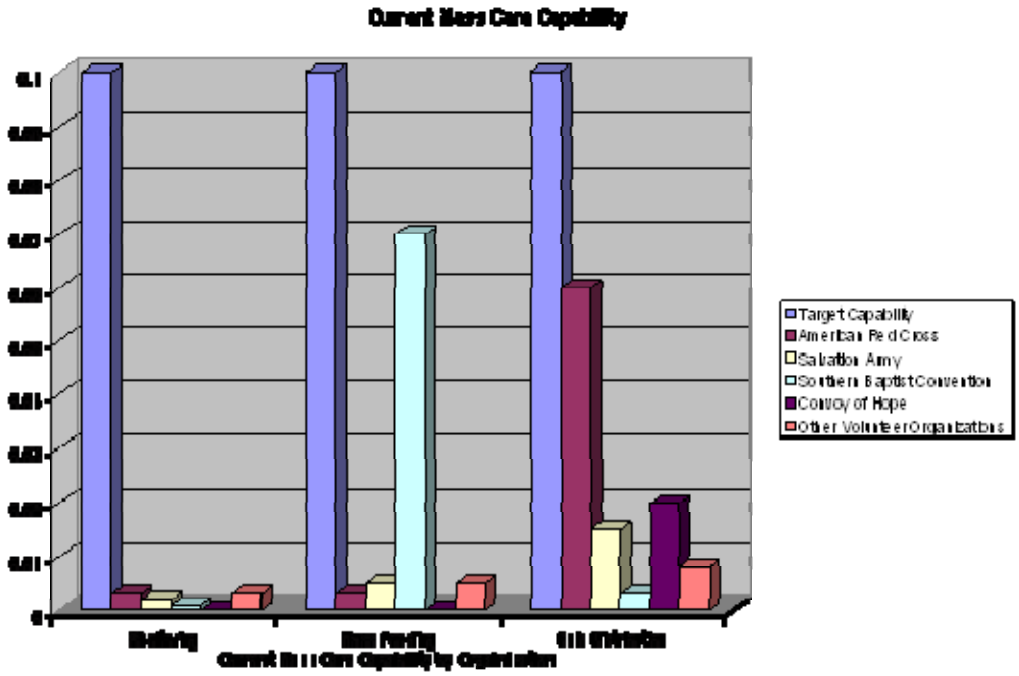

Figure 5. Current Mass Care Capability within Missouri [72]

As indicated in Figure 5 above, a gap exists between the existing mass care response capability of less than one percent compared to the recommended target capability of 10 percent (purple) of the projected population of the affected area. With each of the current major contributing volunteer organizations indicating that it does not possess the capacity to address the mass care needs of the population impacted by an event of this magnitude, it is necessary to find the means to increase this capacity through new initiatives.

[72] Gliniecki, interview, 2009.

C. STATUS OF CURRENT REGIONAL PREPAREDNESS WITHIN THE STATE

There has been little progress in the development of regional mass care preparedness to date. Regional committees have been established in the hope of providing a more coordinated and formal preparedness effort within the established state regions. Regional meetings have taken place, but little of the available regional funding has been dedicated to this effort, resulting in little forward progress. At this time the bulk of mass care preparedness still resides at the state level and its partnerships with the MOVOAD.

The 2006 establishment of the nine Regional Homeland Security Oversight Committees (RHSOC) marks the initiation of a regional approach to homeland security for the state of Missouri. Each RHSOC is comprised of a chairperson and a regional representative for each of the emergency response disciplines: fire service, law enforcement,[73] emergency management, county health, homeland security response system, public works, mayor or city administrator, county commissioner, private industry and public utility, emergency medical service, 911 telecommunications and volunteers organizations. While the DSS maintains responsibility for ESF-6 at the state level, the responsibility for ESF-6 preparedness and response at the regional level has fallen to the volunteer organization representative.

The state passed a total of eight million dollars of DHS grant funding to the RHSOCs in 2007[74] for their use in prevention, preparedness and response. One of the DHS grant investment justifications submitted by the RHSOCs for the expenditure of these funds was for the enhancement of their mass care capability. This enhancement was to be accomplished primarily through planning efforts and training of the volunteer organizations responsible for the ESF-6 response mission. This is significant in that prior to this grant cycle there had been little or no funding allocated for this purpose.[75]

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[73] Includes representatives of both Sheriff's Department and Municipal Police Departments.

[74] Through the FY2006 Department of Homeland Security preparedness grant cycle.

[75] These funds were allocated from the FY2006 Grant Program.

Also significant is according to the grant award notices received by the state of Missouri for fiscal years 2006 and 2007 the grant allocation for the state of Missouri for the 2007 grant cycle was reduced by over 57 percent when compared to the 2006 award by DHS.[76]

While a noble effort was expended in 2006 to fund the establishment the regional mass care capability through the RHSOCs, the future of the current regional program is in question as the funding diminishes. Given the nature of the competitive system for securing funding, it is also questionable how much of the remaining funding the volunteer organizations can secure. There has been a long standing tendency to award the bulk of preparedness grant funding to traditional response organizations such as the fire service, law enforcement and the emergency medical service. Discussions at the state Department of Public Safety level have resulted in a request for state general revenue funding to continue support for a portion of the programs receiving federal cuts but mass care was not one of them.

D. INTERSTATE COLLABORATION AND COORDINATION

The state of Missouri currently relies totally on its ESF-6 partner volunteer organizations and their national organizational structures for interstate mass care support. If additional resources are needed, organizations such as the American Red Cross, the Salvation Army and the Southern Baptist Convention will have to request them from their national networks.

Also of value is the capability to request specific resources through the Emergency Management Assistance Compact (EMAC). These requests for assistance would focus primarily on state controlled assets and would largely assist with the command and control function or overall management of the ESF-6 response effort at the various levels of government. The limitation of EMAC in this or other catastrophic

[76] Department of Homeland Security, Preparedness Directorate, Office of Grants and Training, Part 1: Project Summary in Grant Manager's Memorandum, (Project no. 2007-GE-T7-0034, budget period from 07/01/2007 to 06/30/2010), 1; Department of Homeland Security, Preparedness Directorate, Office of Grants and Training, Part 1: Project Summary in Grant Manager's Memorandum (Project no. 2006-GE-T6-0067, budget period from 07/01/2006 to 06/30/2008, 1).

events is that the majority of the resources that provide direct ESF-6 assistance currently reside in the volunteer sector and those resources are already requested through those respective organizations by the effected state.

The state of Missouri does not currently have any MOU/MOAs in place for specific mass care support with any other states. Instead it currently relies solely on the standard EMAC request procedures. While the standard EMAC request procedures work well for less urgent requests, they rely on interstate negotiation for requested resources and therefore take some time to complete the desired transactions. The author recommends the implementation of MOU/MOAs for time sensitive resources so that partner states could react more quickly once they received confirmation from Missouri that it indeed needs the agreed upon resources.

Another available avenue for specific resources is through the normal resource request process through FEMA Region VII. The federal government is limited in its ability to provide direct support in the form of personnel and facilities for mass sheltering and feeding. It does have resources to applicable to the bulk distribution of resources, such as transportation, ice, food, water and other goods. Refer to Figure 6 in Chapter IV for the intergovernmental ESF-6 assistance flow.

E. EXISTING CAPABILITY SUMMARY

The core volunteer organizations currently involved in mass care response within Missouri are dedicated, highly motivated partners that recognize their current disaster response limitations as applied to a catastrophic event impacting multiple states concurrently. The ARC, TSA, Southern Baptists Convention and Convoy of Hope all have solid leadership structures and extensive disaster response experience. They seem to be the key building blocks around which a larger capability may be built. The ARC, TSA, Southern Baptists and the Convoy of Hope recognize the limits of their current disaster response capacity as applied to a catastrophic disaster. The largest of which is a shortage of trained volunteer staff.

The state agencies seem reluctant to commit a sufficient level of fiscal and personnel resources toward the expansion of mass care response capability. To date, a minimal commitment of fluctuating federal grant money has been committed to this effort with even less state general revenue applied. The state planning process for mass care seems disjointed with the simultaneous application of the all-hazards and threat specific planning modalities. The adoption of a more focused planning methodology coupled with an increase of funding to support the expansion of the mass care response manpower would greatly contribute to an increase in disaster response capacity.

IV. PREPAREDNESS RECOMMENDATIONS

This section addresses various policy and systemic changes to the preparedness modality currently in use within the state.[77] These changes include strategy and policy modification, change in leadership perspective, systems development and or adoption, enhancement of partnerships and the stimulation of citizen volunteerism.

A. PARADIGM SHIFT

The response phase involving large-scale sheltering operations require intensive numbers of personnel and resources. The traditional view that the "ARC will take care of it" and if it has a deficient level of resources, then the Department of Defense will assume the responsibility is completely inaccurate. The ARC does not possess the capacity to meet the sheltering requirements of a catastrophic disaster. The Department of Defense possesses neither the equipment nor the trained personnel to provide community disaster shelters. The necessary level of mass care in a catastrophic event requires the total cooperation and coordination of all volunteer and governmental organizations.

Experience has taught that the current level of vague, general planning with minimal resource commitment to preparedness leads to an ad-hoc response with a "make it up as we go" modality. This not only hinders disaster response, but also delays the recovery effort and jeopardizes the perceived success of the overall disaster response. There are several factors that may contribute to this status quo. One factor is the lack of strategic mass care preparedness guidance at the federal and state governmental levels. Another is that the current funding levels limit the amount of time and personnel that may be committed to planning process. The last and the one heard by the author the most is the existing consensus among the leadership that the less detail included in a plan the more flexibility the leadership has in formulating their response plan as they go along

This paradigm shift requires formalizing and strengthening the current relationships between the volunteer, private sector and governmental organizations

[77] Discussed in this thesis in Chapter III, subsections A and B.

responsible for mass care. The current disaster planning model should be examined for efficacy in catastrophic events and include the national, state and in-state regional visions. Also of great importance is the development of a stronger mass care capability within the state including: volunteer recruitment, training and development, tracking systems, shelter database and an improved mass care communications network. The more self-reliant Missouri is during a catastrophic event, the better able it is to save and serve disaster victims within a timeframe that increases effectiveness with less reliance on other unaffected states that are expected to provide assistance. In Table 1 below is a list of general findings and recommendations by the author.

Table 1. General Findings and Recommendations by Author

Finding	Recommendation
Lack of strategic target capability for sheltering capacity in current state preparedness plans, Chapter III, subsection A.	Identify the target shelter capacity for the state of 10% of the affected population, Chapter IV, subsection B.
79 is too many volunteer organizations reporting directly to the Department of Social Services creates potential coordination challenges, Chapter III, subsection A.	Modify the leadership structure from its current flat or horizontal reporting modality to a more hierarchical or vertical structure, Chapter IV, subsection C.
Many volunteer organizations operate relatively independently, without coordination with the ARC, TSA, SBC or the state. EOC. This creates a burden on the system when they exceed their capabilities during disasters. It also results in some duplication of effort, Chapter III, subsection B.	The new management structure should require reporting by the majority of the volunteer agencies to through the ARC, TSA or SBC dependent upon the mission or task assigned to the reporting organization, Chapter IV, subsection F.
Two separate planning modalities at the state level, the all-hazards and individual planning models, Chapter III, subsection A.	The state incorporate the stand alone earthquake response plan that exists within Annex Y of the SEOP throughout the current all-hazards plan, Chapter IV, subsection D.
Minimal number of formal partnerships formed between volunteer mass care providers. The only formal partnerships identified are between the ARC, SBC, TSA and Convoy of Hope and are discussed in Chapters: III, subsection B; III, subsection B; III, subsection B; and III, subsection B. This finding is largely based on the lack of evidence supporting existing formal partnerships.	Establish a system in which the volunteer organizations have a structure in which to partner, Chapter IV, subsections E and F.

Lack of sheltering, mass feeding and bulk distribution capacity within the ARC, TSA and SBC for catastrophic events, Chapter III, subsections B, under ARC, TSA, SBC & Convoy of Hope.	The Governor's Disaster Recovery Partnership Department of Social Services and MOVOAD conduct a coordinated effort to recruit volunteer organizations willing to accept roles in mass care and assign them to work with either the ARC, TSA or SBC as a mentor organization and reporting chain. Chapter IV, subsection F.
Lack of funding support for the initial reform of the current mass care preparedness system and sustainment beyond reform, Chapter III, subsections A and C.	The state must commit sufficient financial resources for the initial reform and sustainment of mass care preparedness, possibly through state general revenue, DHS grants, USDA rural development block grants Chapter IV, subsection G.

B. NATIONAL AND STATE STRATEGY

Recognizing that the strength of ESF-6 is at the regional, state and local levels does not in any way mitigate the importance of a national vision coupled with a complementary state vision. Without a mutually supporting vision at the national and state levels, strategic planning at the state and local levels is significantly challenged.

This begins with the National Response Framework assigning management of the federal ESF-6 response and recovery to FEMA and the assignment of the various federal agencies, including the ARC, their particular areas of responsibility. The ARC is assigned as the "primary agency" for ESF-6. As such, it is responsible for overall coordination of the federal ESF-6 effort under FEMA guidance. The ARC role at the federal level as a coordinating body is logical, as it is providing a portion of the committed mass care resources available at the state and local levels.

The State Emergency Operations Plan (SEOP) follows the federal model by appointing a state agency as the primary agency with the majority of the coordination assigned to the ARC. The SEOP departs from the NRF with the assignment of ESF-6 to DSS as opposed to emergency management. DSS is much more suited to the actual coordination of the mass care mission than its federal counterpart as it has a presence in every county in the state; and as a social services organization, it should have a much closer relationship with the local communities it supports. This structure works well for

non-catastrophic disasters, but catastrophic events require more capacity from volunteer agencies (VOLAGs) and significantly more management than DSS has committed to ESF-6.

The federal and state guidance promotes disaster preparedness, response and recovery through the assignment of general responsibility while overlooking the establishment of a capability driven system (particularly at the state level). The assignment of responsibility without the establishment of expectations or the desired "end state" and real capacity to conduct operations with staff, equipment and resources lead to generic plans that do little to foster actual response and recovery capability. This is less concern with the federal plan as it lists some of the necessary mass care capabilities in the Target Capabilities List version 1.1.[78] The federal response system must be prepared to provide support as the state approaches its resource limit. As such, the federal guidance may be more open ended than that of the state.

While the National Response Framework is more loosely structured, it does identify the Department of Homeland Security and the Federal Emergency Management Agency as the ESF coordinators and primary agencies responsible for ESF-6.[79] No evidence was discovered in any federal document or Web site researched or within the practical experience of the author indicating these two agencies have now or have ever possessed a demonstrated capability to conduct competent mass care operations. They simply do not possess the manpower, trained or untrained, to effectively conduct shelter or feeding operations on this scale. The only ESF-6 support organization mentioned in the National Response Framework with the capability of providing this support is the American Red Cross. Through its connection with the affected states, this organization will already be providing support at its maximum capacity should a New Madrid seismic event of this scale occur.

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[78] The target capabilities are not carried over into the supporting Universal Task List version 2.1 leaving a significant gap in guidance for the states; Department of Homeland Security, *Target Capability List* (Washington, D.C.: Department of Homeland Security, 2007).

[79]Department of Homeland Security, "Overview: ESF and Support Annexes Coordinating Federal Assistance in Support of the National Response Framework, ESF #6-1," in *National Response Framework*, (Washington, D.C.: Department of Homeland Security, 2008).

The state, on the other hand, must understand the limits of disaster resource delivery in order to clearly identify the trigger points for requesting Emergency Management Assistance Compact (EMAC) and federal resources. This is much more easily achieved if an overarching mass care goal or desired capability is set, such as sheltering up to 10 percent of the state population.

The inclusion of baseline capabilities in the state strategy would not only allow for a more effective and detailed strategic plan, it would also support the other areas of preparedness such as training and exercises. However, at this time no such vision statement or strategic plan for the development of ESF-6 exists at the state level.

C. ESTABLISH CLEAR ORGANIZATIONAL STRUCTURE AND GUIDANCE

The state of Missouri SEOP in combination with the SEOC Standard Operational Guidelines (SOG) has established leadership structure from the governor through the assignment of the Emergency Support Functions to specific state agencies. The leadership structure within ESF-6 is less clear and should be more clearly defined. The traditional roles of the ARC, Salvation Army and the Southern Baptist Convention are: sheltering, mass feeding and bulk distribution. These three have established a good working relationship over the years, having the most developed MOU/MOAs in the volunteer community.[80] However, experience within the state of Missouri indicates that these organizations operate the most efficiently and effectively with designated responsibilities coordinated within a structured command and control system such as the National Incident Management System coordinated at the local and state governmental levels.

The challenges begin when the other 76 well intentioned volunteer organizations enter the disaster response, followed closely by unaffiliated, spontaneous or emergent charitable organizations and churches. When these unaffiliated and ill prepared organizations open their facilities as shelters and expend their minimal resources, they then turn to local and state government for assistance with no notice and typically

[80] Gliniecki, interview, 2006.

unreasonable expectations. It is at this point that the unaffiliated, spontaneous shelters and volunteers become part of the problem, not the solution, as they place unanticipated burden on the logistics network.

According to the current National Incident Management System guidance from DHS, the optimum span of control for the management of disaster personnel is a ratio of one to five with one to seven being the maximum recommended.[81] Seventy-nine organizations currently reporting to the two part-time DSS managers and one entry level employee in a flat organizational table is unmanageable. A more hierarchical organizational structure is needed to reduce the span of control. The development of formal MOU/MOAs defining what mission(s) the individual organizations accept, the level of resources they can support them would allow the design of a more functional and efficient response organization. The more focused the mission or task the more easily resources may be identified and dedicated to them. This organization would also be in compliance with the National Incident Management System (NIMS) guidelines required under the Homeland Security Presidential Directive 5. The recommended NIMS compliant management structure should resemble that depicted in Figure 6 below.

[81] National Domestic Preparedness Consortium, *Instructor Manual, Unit 3: Basic Features of ICS,* (internal training document for ICS-100: Introduction to ICS, Department of Homeland Security, Washington, D.C., 2005).

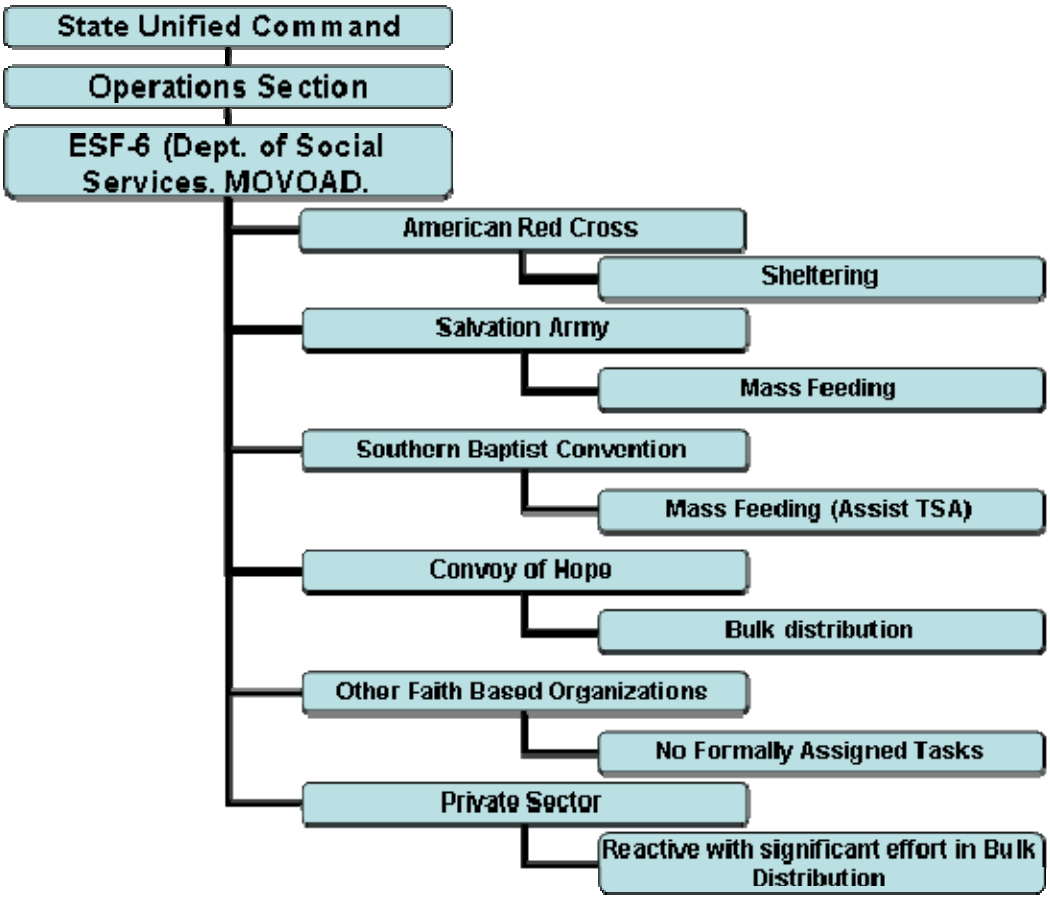

Figure 6. Mass Care Flow Chart–State Emergency Management

On a positive note, the state has officially adopted the NIMS. Based on the author's experience, full acceptance and implementation by the regions and organizations involved in mass care will significantly streamline and improve the management structure within ESF-6. This will bring all of the participating volunteer organizations into the same management system used by the entire emergency response community within the state. The ARC, TSA and SBC are already implementing NIMS within their management structure, but many other volunteer organizations have not done so. There remains a significant amount of outreach to these other organizations for their inclusion into the system.

D. ENHANCED PLANNING

A direct result of the performance of government at all levels during the response to Hurricane Katrina, the Office of Domestic Preparedness Information Bulletin 197 was issued on November 23, 2005 directing all of the states, as well as cities designated as recipients of the Urban Area Security Initiative (UASI) grant funding, to complete a full disaster response plan review and submit their self-assessments to the Department of Homeland Security.[82] Missouri's assessment resulted in an executive level decision to add Annex Y to its existing SEOP. Annex Y is a catastrophic disaster document focused on the New Madrid seismic threat. Annex Y is essentially an incomplete "stand alone" earthquake response plan inserted into the state all-hazards plan. It may have proven more effective to expand the existing all-hazard planning model on which the SEOP is based. The decision to construct Annex Y in its current form was based on the need for a time sensitive resolution in order to meet federal guidelines. The expansion of the current all-hazards model would have taken more time. Attention should be given to resolve the dissonance between the two planning modalities.

According to the FEMA Comprehensive Preparedness Guide 101, Producing Emergency Plans, emergency planning addresses all hazards and must involve all partners in the planning process.[83] Even though the planning process may be affected by time constraints, the plans are living documents and are continuously improved. Given the continuous nature of the planning process and the adoption of the all-hazards planning process at the federal and state levels it makes sense that the hazard specific Annex Y be incorporated into the traditional all-hazards State Emergency Operations Plan.[84]

The mass care sheltering guidance contained in pages Appendices 5–1 and 5–2 of Annex Y adds little to the existing general guidance in the balance of the SEOP and could certainly be incorporated into Mass Care Annex (Annex I) of the SEOP. The little

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[82] Department of Homeland Security, Office of Domestic Preparedness, Information Bulletin 197, Subject: Nationwide Plan Review, issued on November 23, 2005.

[83] Federal Emergency Management Agency, *Comprehensive Preparedness Guide 101*.

[84] Ibid.

additional guidance provided would prove useful in other disaster scenarios such as large-scale winter storms where significant sheltering may be necessary.

In order to be a true all hazard plan, Annex I should provide all information necessary for DSS, SEMA, MOVOAD and other relevant staff to effectively respond to and recover from the greatest disaster threat facing the state, a New Madrid seismic event. The expansion of Annex I will require the close cooperation of SEMA, DSS, MOVOAD and the Governor's Disaster Recovery Partnership. The benefit of the inclusion of the earthquake response guidance from Annex Y into the ESF-6 section of the all-hazards SEOP is the creation of a true all-hazards plan. Retrieval of response guidance from several different sections of a large plan may contribute to the confusion of response personnel for whom emergency response is not their daily responsibility. The additional information located within the appropriate portions of the all-hazards plan facilitates easier information retrieval and concentrates the additional options available for catastrophic events in the same location should their implementation become necessary as the seriousness of an event escalates.

1. Identify and Track Potential Shelters

The ARC, working closely with the local jurisdictions has identified approximately 335,000 shelter beds within the state. It is only two-thirds of the ARC goal within the state and does not include shelters run by organizations other than the ARC. A New Madrid Seismic Zone earthquake may render many of these beds unavailable within the affected area. With this in mind it becomes evident that the other VOLAGs, including the faith-based organizations (FBOs), have a critical role in the overall success of a large-scale sheltering operation. It is imperative the state formally locate, evaluate and track these potential shelters for inclusion within the formal response system.

The ARC recently implemented the National Shelter System (NSS). A database intended to track Red Cross shelters around the country. Widespread use of this system within the ARC has led to recognition of the ARC's leadership in this area. It has become the de facto national standard for tracking available shelters. The NSS can provide the state of Missouri with the needed shelter tracking capability it currently lacks.

The state has adopted the ARC shelter standard and the National Shelter System database. In order to achieve successful expansion of the state sheltering capability, any volunteer organizations wishing to participate in the sheltering mission must be identified and invited to participate, encouraged to meet these standards, include potential shelters in the ARC NSS database, train its staff to the ARC standard and participate in any necessary formal MOU/MOAs. This is the only tracking system that currently demonstrates the capability to effectively meet the need. This inclusion of the other VOLAGS in this system is necessary for the state to gain an accurate picture of the number and location of available shelters. The only organization that currently has its shelter information in the system is the ARC; this provides an incomplete picture of state shelter capacity and resource needs for continuous shelter operations during a catastrophic event.

2. Select Viable Displaced Persons Tracking System

The state of Missouri currently lacks a system for the tracking of displaced persons or evacuees during times of disaster. The current system of reporting by shelters includes the formal ARC shelters and any ad-hoc or emergent shelters known to the state, providing a daily numerical count of citizens occupying the shelters each night.

The ARC does have a family quasi-welfare/reunification system in place that centers on the ARC “Safe and Well” Web site. Registration as “safe and well” on this site by disaster victims is enabled and promoted by the ARC both inside and outside of the area affected by the disaster. Concerned family members, knowing the victim’s phone number or address, may search for his or her status on this site.

The ARC also assists with the location of displaced individuals and families through its Welfare Information Centers (WIC) and Field Teams. This is a more traditional search method and requires a significant number of man-hours dedicated to the digital and physical search. While the WIC will assist with family reunification using the traditional designated internal ARC tools, the primary role is to field requests for health services and disaster mental health submitted by ARC chapters, provide initial case

review and research and help people register on the Safe and Well Web site. [85]This system may serve as a marginally functional interim system until a more effective or integrated system can be identified and implemented.

Selecting the most efficient and effective system while encouraging its recognition as the national standard should be considered a high priority by DHS. This may be an updated version of the current ARC-WIC system or the adoption of an entirely new modality.

This proposed system may utilize bar codes, Radio Frequency Identification Device (RFID), or other technologies integrated in wrist bands issued at shelters, aid stations, or local facilities. The Kansas City metropolitan area has adopted a bar code system which it shared with St. Louis during preparations to receive evacuees from Hurricane Katrina, but unfortunately the expected Katrina evacuees were routed to states other than Missouri and the system did not get used. A system of this type would track evacuees though the system until permanently relocated or returned to their community. A system of this type should greatly improve the overall efficiency of the sheltering system. The integration of the individual tracking system and the ARC shelter database theoretically should prove synergistic.

3. Develop Information Sharing Communications Network

The state of Missouri launched an emergency/disaster management communications system in 2008 that integrates E-TEAM, an access portal, and a resource database into one system in an effort to meet the communication needs of statewide emergency management. This system does allow the mass care coordinators to communicate through all levels of government and request resources anywhere high speed internet is available. While valuable as a communications tool, this system does not possess the capability to track mass care shelters or displaced persons, therefore additional mass care communications tools are needed. A key component of the adoption of the ARC National Shelter System (NSS) and a displaced persons tracking system

[85] American Red Cross, "Individual Client Services" in "Disaster Services Program Guidance," (internal document, American Red Cross, Capital Region Chapter, Jefferson, Missouri, 2007), 2.

should be the linking of these additional databases within the Missouri Emergency Resource Information System (MERIS). This linkage would facilitate the tracking of operating shelters, available shelters in reserve and displaced persons throughout the sheltering system as well as the tracking of the resources supporting the shelter operations at the local and state levels.

E. MOBILIZING THE CITIZENRY—VOLUNTEERISM–CREATING A NEW CITIZEN ETHIC

Following the September 11, 2001 Al-Qaeda attacks on the East Coast, President Bush announced his call to the American public to volunteer and participate in his vision of a nationwide network of volunteer programs named Citizen Corps. President Bush's vision and program was sound and some state and local jurisdictions have developed functional programs. President John F. Kennedy made a similar call for volunteerism when he established the Peace Corps during his administration, and the program was successful.[86] The success of presidential requests of this type largely rest on the charm and popularity of the president making the request and the level of desperation the nation faces. President Bush lacks President Kennedy's charm and popularity, and unfortunately in an effort to calm the populace President Bush missed the opportunity to effectively communicate the need to mobilize the citizenry. Instead, in a post-September 11 speech, he told the citizenry to "live your normal lives and hug your children".[87]

In order to significantly improve the success of the Citizen Corps and volunteerism in general, it is imperative that the requesting government representatives be closer to the people served than merely a distant voice in Washington, D.C. The state and local elected officials, as well as respected community leaders such as fire and police chiefs, must not only ask their constituents to participate but must also explain why it is important and just how their participation will make a difference in national

[86] Thurston Clarke, *Ask Not: The Inauguration of John F. Kennedy and the Speech That Changed America* (New York: Holt & Company, 2004), 6.

[87] eMediaMillWorks, "President Bush Addresses the Nation," *Washington Post*, September 20, 2001, http://www.washingtonpost.com/wp-srv/nation/specials/attacked/transcripts/bushaddress_092001.html (accessed March 21, 2008).

preparedness. As this new wave of volunteers emerges, they must be partnered with traditional volunteer organizations. It is these organizations that may most effectively train and utilize these volunteers, keeping them engaged over time. It is a well accepted maxim in volunteer management that if an organization ignores its volunteers, they will go away.[88]

1. Supporting the Community

There are insufficient personnel resources in the emergency management system to support the capacity needed to achieve the level of preparedness adequate to support a large scale New Madrid Seismic Zone earthquake. Preparedness must occur in every community (county and city) to the degree that citizens in each community volunteer in sufficient numbers to provide reliable and competent shelter teams, feeding teams and bulk distribution teams. Just as nearly every community has some form of fire and police protection so too should every community have adequate disaster response and relief capability. This requires a new ethic in society, an ethic that dictates that disaster response is the civic duty of every able-bodied citizen. Can such an ethic be achieved?

The answer lies within each community and within each citizen but several aspects of this issue are clear. The need for preparedness has already been made abundantly clear through numerous disasters especially Hurricane Katrina. The training, procedures, command and control structures, support agencies and many other foundations of mass care already exist in the Red Cross, Southern Baptist, Salvation Army and emergency management. The challenge is taking the infrastructure that exists, transplanting it to where it is needed (read every community in Missouri) and growing the citizen resources to populate and resource the infrastructure so that it can operate somewhat independently in the largest disasters until the full impact of national level resources arrive to relieve or support the local citizenry. This requires cooperation between state and local emergency managers in a statewide recruiting effort to reach the many affiliated and independent volunteer agencies where the supplemental manpower exists to greatly enhance sheltering capacity. Interested organizations must be integrated

[88] Gliniecki, interview, February 15, 2008.

into the mass care management structure in a manner that allows them to meet their altruistic needs, as well as constructively accomplish their agreed upon mass care assignments.

a. American Red Cross

The ARC realizes that it does not currently have the intrinsic capability to meet the mass care needs of a NMSZ. The ARC is using its new partnership doctrine to address the need to build capacity by involving more of the community in its effort to build the necessary mass care resources to address a catastrophic disaster.[89] As the ARC moves to the next step in achieving the immensely challenging goal of adequate preparedness, the Red Cross is reaching out to some of its most traditional and reliable partners – the faith community, especially the Christian denominations that have for so long been the staunch allies of Red Cross. If approached with organization, resources organization, co-opting and partnering with the faith community should prove relatively straight forward in the quest to gain greater mass care preparedness, though it will still take time and effort to achieve.

b. Salvation Army

The Salvation Army has moved decisively toward a significant integration with the ARC and the SBC in mass care preparedness and continues to strengthen this relationship which can only enhance preparedness and the safety of the citizens of the state. TSA must now be prepared to assist with the integration of the balance of the volunteer organizations into the organized structure of ESF-6. This includes MOU/MOAs, training, organization, planning and their participation in disaster exercises.

c. Southern Baptist Convention

The SBC has always been closely allied with the ARC in disaster response and mass care operations. They are great supporters of the ARC doctrine and continue to

[89] "Connection Preparedness and Response," *ARC Newsletter*.

effectively response when needed. Like TSA, it must be willing and prepared to assist with the integration of the balance of the volunteer organizations into the organized structure of ESF-6. The SBC currently sets the example in motivating its congregations, volunteers, clergy and lay leadership.

d. Convoy of Hope

The Convoy of Hope should be fully integrated into the Missouri disaster preparedness and response program and given the responsibility as the lead volunteer organization for bulk distribution. As with the states of Florida and North Carolina, this relationship must be more formal than the Convoy of Hope's current informal relationship with its faith-based partners. It must include an MOU with the state listing both the state and Convoy of Hope expectations and accepted responsibilities. This agreement should allow the Convoy of Hope to continue to provide independent local support through its faith-based network while simultaneously providing distribution of state sponsored resources during times of disaster.

The Convoy of Hope has proven experience in providing the resource distribution during crisis. The success it has enjoyed providing eight state area points of distribution for the state government of Alabama during the Hurricane Katrina response demonstrates the Convoy of Hope's current coordination and response capability.[90] Even with the Convoy of Hope's current capability, it is imperative that it be included in the development and integration of the Missouri disaster preparedness effort because a significant New Madrid seismic event involving an eight state response will stretch the Convoy of Hope's capability beyond the breaking point. The inclusion of the Convoy of Hope in Missouri disaster preparedness will increase its efficiency within the state through the reduction of the duplication of effort. As with the ARC, TSA and the SBC, the Convoy of Hope will also need to expand its response capacity in order to meet the expected level of need. Also as with the ARC, TSA and SBC, the Convoy of Hope can significantly increase its capacity through a coordinated recruiting, assignment of responsibility and training effort sponsored by the state of Missouri.

[90] Irwin, interview.

e. Faith-based Organizations

The faith-based organizations within Missouri are already involved in disaster response and recovery within the state, but are an underutilized resource. They simply need assistance in organizing, planning, training and developing and maintaining resources. They also need a defined operational structure that greatly enhances the capabilities and strengthens that which they already possess. Successful integration of the concepts outlined in this document should increase shelter capability from current levels of 10,000 (less than one percent) to 203,931 (10 percent) of the affected population within the 47 counties expected to be impacted by a New Madrid event of 7.7 or higher on the Richter scale .

With an increase in emphasis at the state and federal level through a significant expansion of the availability of education, training and exercises for the FBOs, Missouri should see a direct increase in its current response capability. Based on the volunteer ethos, it is also reasonable to expect a proportional increase in volunteerism within the participating areas and organizations and boost the overall disaster response capacity of these organizations through increased personnel numbers. This increase in state mass care capacity should result in a reduced demand for federal assistance in the management of the shelter system. Purposeful VOLAG activity such as training and assisting citizens in need not only provides personal reward for those involved, it often results in those volunteers discussing their activities with friends and acquaintances leading to additional recruitment and retention in the program.

This increase in available training and exercises for the FBOs must be based on the adoption of the ESF-6 practices that are becoming the standards adopted by the ARC, TSA and SBC. The adoption of these standards coupled with an effective training and exercise program would allow Missouri to adequately shelter the ten percent of the affected population recommended by Statewide Volunteer Coordinator Dante Gliniecki, the ARC and the state mass care planning committee.

To achieve this goal, it is necessary for a dedicated full-time position within SEMA to work closely with the Governor’s Disaster Recovery Partnership, the

MOVOAD, DSS, the Regional Homeland Security Oversight Committees (RHSOCs) and the Missouri Interfaith Disaster Response Organization (MIDRO) in an effort to reach out to the FBOs for effective inclusion into the formal disaster preparedness and response system.[91] The secular volunteer response organizations, such as the ARC, and FBOs, such as the SBC and TSA, must also be included in this process as they are the backbone organization involved in disaster field operations. These organizations have the most experience and are in the best position to provide the necessary field organization and training for the more fledgling FBOs.

Given the necessary time and resources to address this ambitious project, utilizing the Partnership and MOVOAD, the MIDRO is likely the best entry point into the FBO community for attracting interest and addressing the needs and concerns of the individual member FBOs. Rushing this project in the interest of political expediency will likely doom the project to failure as the FBOs, while interested, have many other issues of concern to their congregates. This project should be considered a long-term transition that may take as long as one to two years before transitioning into maintenance mode. As the Statewide Volunteer Coordinator, Mr. Gliniecki estimates that for every dollar spent on his salary, benefits and support costs, between $30 and $40 dollars are returned to the state in the form of disaster relief that would not have otherwise been spent.

f. Emergency Management

As the lead coordinating agency for the overall preparedness, response and recovery effort within the state, SEMA must recognize the need for capacity building in the volunteer community. Only through the building of this capacity at the state, regional, and local levels will the state gain the capability to actually shelter the necessary portion of its citizenry in a time of crisis. Without further infusion of energy and resources, traditional emergency response volunteer organizations have reached their maximum capability to support the state. It is critical that SEMA, the Governor's Disaster Recovery

[91] MIDRO- Begun in 1993 as the Interfaith Disaster Response Network, MIDRO has been active in large and small disasters since that time. At times, one or more persons have been hired as staff to facilitate and administer the work of the participating faith groups. Missouri Interfaith Disaster Response Organization, "MIDRO," http://www.umocm.com/midro.htm (accessed December28, 2007).

Partnership and MOVOAD provide the necessary emphasis to engage and develop underutilized groups, strengthen existing partnerships and coordinate more detailed plans supporting ESF-6. The coordination of the vast array of faith-based organizations involved in the current ad-hoc disaster sheltering effort is the first obvious step in the process of involving citizens in mass care. Toward this end, SEMA in partnership with the faith community should create and support a faith-based initiative that provides guidance to the faith community on how to be prepared in three areas. Those areas are as follows:

- Individual and family preparedness within the faith-based organizational congregants.
- Continuity of operations preparedness for the day-to-day operations of the church or faith-based organization.
- Community support for the Red Cross mass care missions or other human services missions.

For SEMA to successfully mobilize and integrate this infusion of volunteerism into the mass care system, one must recognize the additional drain on limited state resources. The magnitude of this project requires additional staff as well as funding to support the coordination and planning meetings necessary to accomplish the task. The state has historically contributed little in the way of financial support, limiting investment to the salaries of one-and-one-half positions within SEMA, with the balance of support funding coming from the FEMA Emergency Management Preparedness and federal homeland security grant programs.

g. Missouri Department of Social Services

Within the past two years the Missouri Department of Social Services more positively engaged in mass care preparedness and response with the majority of focus on response. In order to meet the mass care needs of the state during catastrophic events, the DSS will need to greatly enhance its commitment to all phases of disaster management. The adoption of the ARC shelter training courses and the subsequent commitment of a few staff as trainers has proven to be a step in the right direction. The

Statewide Volunteer Coordinator estimates that approximately 100 deliveries of these courses throughout the state should be considered the minimum number of courses necessary to approach meeting the current need. The audience for these courses should consist of a mixture of DSS employees and volunteer sector personnel. SEMA is the only agency other than the ARC currently delivering only these courses. SEMA delivers four and the ARC delivers five sessions per year. DSS has been inactive in this area outside of its departmental employees.

The dedication of sufficient full-time staff to emergency management within the DSS focused on preparedness, response and recovery from disaster is critical for success. As the responsibilities of the DSS Emergency Management staff cross divisions within the department, these positions should operate within the director's office and receive the requisite amount of funding, guidance and support from the Department Director. It is extremely difficult for anyone to manage a department wide program while buried three levels down inside a single division.

The majority of the mass care effort occurs at the local and county level. Therefore, it is important that the DSS have someone on its staff at the county level, and for larger communities the community level, who are competent to manage any issues related to mass care that may arise that are of concern to the state. This requires staff that not only meets the minimum training requirements, but is truly committed to success of the program. If acceptable to the DSS, these staff positions may be supplemented by ARC, TSA or AmeriCorps personnel as available.

h. Citizen Corps

Citizen Corps and the Community Emergency Response Team (CERT) program in particular is a potential source of volunteers that may be capitalized upon for inclusion into the mass care function. Many of these volunteers continuously seek opportunities to serve their communities and are willing to attend the necessary training courses. It is important when building capacity that no opportunity is overlooked.

i. Private Sector

The integration of the private sector is important because the majority of donated goods passing through the bulk distribution network are donated by private industry and businesses. Therefore, the private sector should be represented within ESF-6 at the state level. One potential source for this resource is the Missouri Public Private Partnership (MOP3). While primarily associated with the Missouri Office of Homeland Security, this organization has demonstrated great flexibility and a genuine willingness to assist in any area during time of disaster. Consideration should be given to including MOP3 into ESF-6.

F. IMPLEMENTATION CONCEPT

It is important to increase efficiency through focusing and clarifying the state emergency operations plan, improving mass care disaster communications, selecting appropriate tracking systems, restructuring ESF-6 leadership and setting clear goals. However, the most significant hindrance to a successful increase in mass care capacity is the shortage of qualified, trained personnel to staff the sheltering, feeding and bulk distribution functions.

The increase in mass care response capacity within the state relies on the concept of identifying the primary volunteer response organizations, determining their responsibilities and then placing them under the lead state agency, the Department of Social Services. Following this is the recruitment and alignment of other supporting volunteer organizations with the requisite primary volunteer organization. The steps outlined below are one way to secure the desired increase in mass care response capacity. It is critical that this concept be implemented at the state and local levels with a considerable amount of coordination and cooperation. Strong organization at the state level is important for the consistent state-wide management of both the preparedness and response processes. Acceptance and cooperation at the local level are equally important as without these, this system will break down and revert to the current system along with its current limitations. Surprisingly, as this concept was discussed with various volunteer

organizations, what the author thought of as relatively minor adjustments in the system were viewed by these organizations as radical, but optimistically received changes.

The most efficient path for the education of the FBOs concerning their potential integration into the disaster management system is through the conduct of a state and FBO disaster conference. The purpose of the conference is to gather all interested FBOs and inform them of the various mass care and other human service capability gaps in disaster preparedness, response and recovery, educate them on the specifics and invite them to partner with a more veteran organization in an effort to minimize one or more of these current gaps.

The conference development process should include a small concept or organizational meeting with the Governor's Partnership, MOVOAD, SEMA and MIDRO representatives to develop an acceptable concept or methodology for presenting the various options available to the MIDRO membership.

The concept meeting is followed by an expanded partner meeting in which the Special Needs Taskforce (SNP) MOVOAD, MIDRO, the SEMA Area Coordinators, the Department of Health and Senior Services (DHSS), the Department of Social Services (DSS), the Emergency Management Director Advisory Committee and the Governor's Disaster Recovery Partnership add to the initial concepts by adding their input to the selected information tracks on which the conference is structured. Initial interest and information indicates these track are like to be infrastructure, community disaster response, disaster preparedness and continuity of operations.

In order to successfully provide assistance to the public, it is important that these organizations are capable of sustaining their own routine operations while simultaneously assisting with the disaster. Therefore, continuity of operations training with an emphasis on how it can positively impact organizational capability to respond should be considered essential for the conference participants.

Once the various faith-based organizations have committed to the process, it is equally important that they be partnered with the appropriate organizations to ensure they are properly trained and equipped for their chosen role. This does not mean the state will

purchase all equipment and supplies necessary for their participation. State and partner organizations have a responsibility to provide the guidance and education necessary for the participating FBO to understand what equipment, personnel and skill sets are needed to effectively prepare for, respond to and assist the public in recovering from a disaster within their chosen role. It is then up to the FBO to secure the necessary materials, recruit the personnel and work with the partnering organizations, including the state to obtain the requisite training for their area of responsibility.

1. State Level Implementation

The development of this process begins with a state-level conference targeting the senior officials of the various volunteer organizations active throughout the state. This conference focuses on educating these senior officials as to the state disaster preparedness process and the various opportunities available in which the volunteer organizations may participate. This conference is likely to focus more on the faith-based organizations because as a body they are much larger than the secular volunteer organizations, but it is important to include as many of the secular groups that wish to participate as possible. The volunteer officials must understand that their organizations will select a particular function within the mass care mission and are expected to work closely with the primary voluntary organization assigned that particular responsibility. It is also important that everyone understands that this is not a competitive process and that the overall purpose is the provision of life saving goods and services to citizens in need. Some of these organizations may elect to allow their local chapters, congregations or parishes to determine their own role in the process and that is acceptable as long as they follow the county/local level process outlined below.

Once the state FBO conference has been successfully completed and FBO interest captured, it should be followed with a series of similar programs, smaller in scale, within and specific to each Missouri emergency management area or region of the state. The purpose of the area conferences is to attract local interest and solidify partnerships at the county and community levels. The vision for this project is to develop the local capacity and state coordination capability simultaneously.

The nine regional conferences will allow more regional and local volunteer leaders to attend. These conferences will be closely coordinated with the county and community emergency managers within each area. The same principles and information shared at the state conference will be shared with the regional conference attendees. Beyond allowing the volunteer organizations to consider assuming potential mass care tasks, these conferences are also an opportunity for recruiting interested parties to assist in the management of the disaster preparedness and response effort. One must consider that as the state builds capacity, it must also build the capability to mange this new capacity.

The state should officially adopt the more streamlined management model depicted in Figure 7 below. This model conforms to the National Incident Management System (NIMS) guidelines that have become the national standard for the management of emergencies and disasters. It minimizes the number of personnel and organizations managed by any one person or section. It conforms to the current state emergency operations center operating guideline format. This model also reinforces the responsibility for the mass care function squarely on the shoulders of a state agency that reports to the governor.

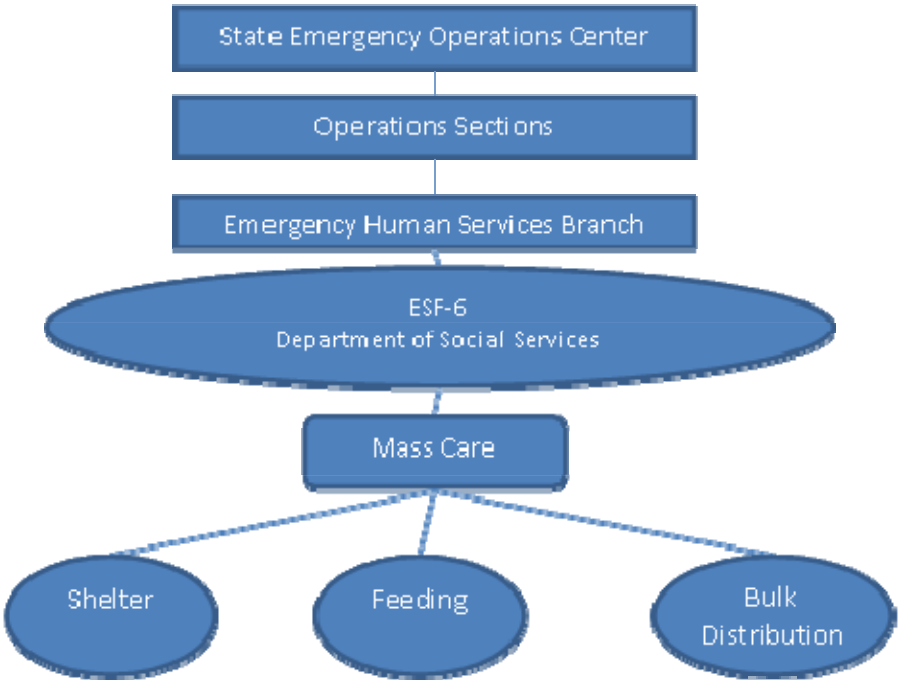

Figure 7. Suggested State EOC Mass Care Structure

It is necessary to update the state emergency operations plan (SEOP) and the state emergency operations center operating guidelines to include the responsibilities of the SBC feeding, TSA feeding, ARC sheltering and the Convoy of Hope bulk distribution falling mission under ESF-6 and the Department of Social Services. This will formalize the process and provide an easily shared documented responsibility.

This may be done when the SEOP is updated to include the preparedness information currently in the stand alone earthquake annex (Annex Y) into the all-hazards planning format currently in use for all other Missouri hazards. This should be done as it is impractical to maintain two separate planning modalities and much of the information contained in Annex Y would prove beneficial if included in the balance of hazards included in the rest of the plan.

Funding should be secured to accomplish this implementation process prior to beginning the process. As one will note in Chapter IV, section G adequate funding of this

document, the funding necessary to support this program is minimal when balanced against the expected return in preparedness and the safety of the citizens.

One area that should be stressed throughout this process is the need for standards in capability. This is accomplished through the selection process of the individual volunteers, matching their physical and mental ability with the particular tasks for which they are selected. It is also accomplished through the adoption of a standardized training program throughout the state for each mass care mission or task. These standards should be agreed upon by the volunteer organizations and the state. This training will be provided to the volunteer organizations by the State Emergency Management Agency, the Department of Social Services, local emergency managers and the primary volunteer organizations. Once standardized, this training should be institutionalized within the state agencies and volunteer organizations through the building of training cadre within these organizations. Institutionalization allows the indefinite sustainment of the training. The success of this program is dependent on the inclusion of the local emergency management in this process. Without their active support throughout the building and coordination process the desired structure can not be achieved.

Once the volunteers and their respective organizations have formally joined the program and been effectively trained, it is important to keep them engaged in disaster preparedness. This could be accomplished through continued training opportunities, but is best accomplished through their involvement in disaster exercises. While the state can accommodate some of the volunteer community in state-level exercises, the full engagement of the volunteer community can be best accomplished at the local and regional levels. Therefore, whenever possible the state should provide the greatest opportunity possible for the inclusion of the volunteer organizations in these exercises. Other options for engaging volunteers may include disaster assistance deployments through the Emergency Management Assistance Compact (EMAC), the ARC, in-state mutual aid and the Missouri SEMA Disaster Services Human Resource Branch.

2. County Level Implementation

The local emergency management and volunteer organizations should be encouraged to fully participate in the regional conferences. This is of critical importance as the majority of the volunteer organizational resources reside at the local level. Success is not possible without their participation.

The regional conferences are the best opportunity to recruit volunteer organizations that have not traditionally participated in the preparedness process. This is best accomplished through the detailed explanation of the integrated emergency management system and the volunteer organization's role in it. Once the organization has had an opportunity to discuss the process and decides which specific task(s) or mission(s) it would like to pursue, the local emergency manager will work with the volunteer organization and the state to incorporate the volunteer organization into the system.

The inclusion of these volunteer organizations will necessitate the modification of the local emergency operations plans and structure to accommodate them. This plan modification should be made with the cooperation of the state, and local emergency management as well as the affected volunteer organizations. Refer to Figure 8 below for the recommended local organizational structure.

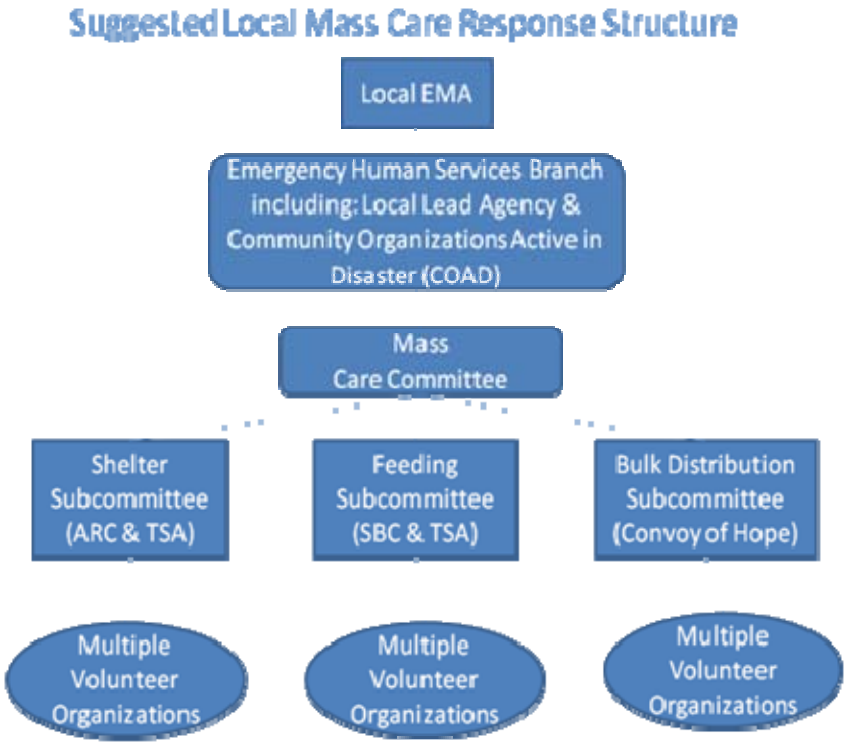
Suggested Local Mass Care Response Structure
Local EMA
Emergency Human Services Branch including: Local Lead Agency & Community Organizations Active in Disaster (COAD)
Mass Care Committee
Shelter Subcommittee (ARC & TSA)
Feeding Subcommittee (SBC & TSA)
Bulk Distribution Subcommittee (Convoy of Hope)
Multiple Volunteer Organizations
Multiple Volunteer Organizations
Multiple Volunteer Organizations

Figure 8. Recommended Local Mass Care Response Structure

As Figure 8 suggests, it is important to link the recruited volunteer organization with the primary volunteer organization responsible for the selected task(s). This provides the recruited organization access to the primary organization's operating guidelines as well as any of its training programs intended to enhance recruited organization's capability or qualify it for operational participation. Many of these organizations, including the primary organizations, do not have the financial resources to accomplish training on a large enough scale to meet the requirements of this program. The state will have to supplement this training through the use of federal preparedness grants.

The local emergency management programs must include expanding volunteer organizations' the opportunities to participate in disaster preparedness exercises on a regular basis. This will not only allow them to sharpen their skills but also keeps them involved and interested.

G. ADEQUATE PREPAREDNESS FUNDING

The Hurricane Katrina response, the multiple severe storm responses within the state in 2006 and the current New Madrid Seismic event planning effort created an acknowledgment (beyond the responsible volunteer organizations) that the need exists within the state for an improved mass care capability. Converting this acknowledgement into an effective course of action requires significantly more than good intentions and the minimal financial resources committed during a single grant cycle. This requires a view divergent from the current course.

From 2002 through the 2008 federal grant cycle, the state of Missouri committed the bulk of the homeland security grant funding as follows (Table 2):[92]

Table 2. Past Homeland Security Funding Allocations by Response Discipline

Area	**Amount**
Fire Service and HAZMAT	$56,408,694.08
Law Enforcement	$69,615,255.32
Emergency Medical Service	$4,637,577.30
Interoperable Communications	$44,926,339.89
Mass Care	$2,399,517.79

Since the events of September 11, 2001, only 1.3 percent of the available Department of Homeland Security (DHS) grant funding allocated to Missouri was dedicated to the enhancement of mass care response.[93] Only $245,000.00 of the mass care amount above was allocated at the state level; the balance was allocated at the regional and local levels. The result is the state allocating approximately .001 percent of the available homeland security funding for mass care. The state did not contribute any

[92] Missouri State Emergency Management Agency, "SEMA Electronic Grant Management System," (internally generated report, SEMA Homeland Security Branch, Jefferson City, MO, May 28, 2009).

[93] Missouri State Emergency Management Agency, "SEMA Electronic Grant Management System," (internally generated report, SEMA Homeland Security Branch, Jefferson City, MO, November 6, 2007).

general revenue for this purpose during this time. The sheltering requirements emerging from the disasters occurring within the last two years have garnered some attention from the executive level, but the commensurate level of funding or staffing needed to adequately address the issue has not been forthcoming. The author believes the shortfall of funding is due to the combination of the traditional emergency response organizations having powerful lobby groups who are used to competing for grant funding while the volunteer organizations and the responsible state agency remain rather quiet on the subject. The primary decision makers for grant disbursement traditionally come from the military, fire service, law enforcement or the emergency medical service and tend to fund what they understand the best.

It is important the state recognize that providing the traditional response organizations such as fire, EMS and law enforcement with additional tools does greatly increase the likelihood that more citizens may be saved during a man-made or natural catastrophic event. One must also consider that without a greatly improved mass care capability those saved may well perish from the lack of adequate shelter and care following their rescue or evacuation. One often overlooked fact of disaster management by those not directly involved is that the recovery phase is virtually always of much greater length than the response phase.

It is the volunteer agencies that are most likely left to deal with the human services needs after the event and navigate the federal bureaucracy for any available assistance. Many do not realize that FEMA recovery assistance project for the Great Midwestern flood was initiated on July 9, 1993 and was not completed and closed until August 13, 2003. There seems to be a disproportionate amount of resources dedicated to disaster response, the phase of disaster management with the shortest duration.

The fact that past governors have elected not to commit a portion of the limited state budget to the enhancement of mass care preparedness does not preclude the governor's office from emphasizing to his/her cabinet that while SEMA is tasked with the overall coordination of disaster preparedness within the state through Chapter 44 of the Revised Missouri Statutes, the true resources for disaster response and recovery capability at the state level lie within the state agencies. The reluctance of these agencies

to recognize this fact, their frequently stated position by the career staff that this responsibility is not their primary duty, the commitment of minimal personnel and funding to support the development of the mass care function will eventually result in the failure of the state to adequately support those volunteer organizations involved in the relief effort.

As an example the Department of Social Services includes 8,125 employees managing many programs with an annual budget of $6.2 billion dollar budget.[94] They have committed one full-time employee, two part-time managers and approximately 10 staff to act as part-time trainers. The full-time emergency manager position is a recent development. The two part-time managers perform admirably but are expected to effectively manage their sections resulting in a commitment of approximately 10 percent of their time devoted to disaster preparedness. The recently identified part-time instructors volunteered (in addition to their other primary duties) only as long as they only train DSS staff inside the department.

As it stands at this time, there is very little general revenue funding flowing into the mass care preparedness effort and most of available funding is in the form of very few part time personnel. One might get the impression that the state is willing to maintain an emergency management program only as long as the federal government is paying for it. A serious inquiry into the necessary level of general revenue needed to support this effort should be initiated. This becomes more urgent as the homeland security grant sources continue to reduce in volume.

To adequately prepare for these events it is expected that the organizational education, close coordination, and role specific training required by the proposed integration of underutilized non-governmental organizations will require close to a $350,000.00 investment for the first year followed by $200,000.00 per annum for the subsequent three years, followed by $100,000.00 for annual program continuity. While this may appear to be a major investment, the successful integration of additional NGOs into the system resulting in the capability to shelter 10 percent of the population of the

[94] Missouri Department of Social Services, "Office of the Director," Department of Social Services, http://www.dss.mo.gov/ddo/index.htm (accessed November 7, 2007).

state, an increase of 900 percent, makes this program extremely cost effective. The current organized shelter capacity of the state of Missouri is less than one percent of the population. Figures 9 and 10 below represent the current mass care response capability (Figure 9) and the projected mass care response capability (Figure 10), once the author's recommendations have been implemented.

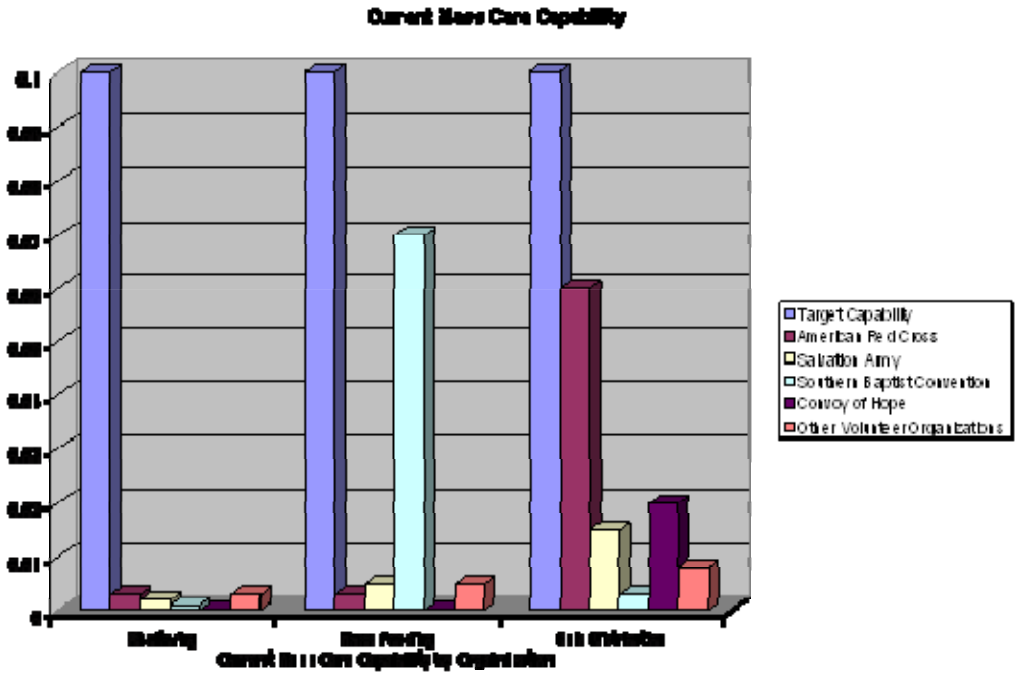

Figure 9. Current Mass Care Capability within Missouri [95]

[95] Dante Gliniecki (Missouri State Emergency Management Agency, State Volunteer Coordinator), interview by author, April 3, 2008.

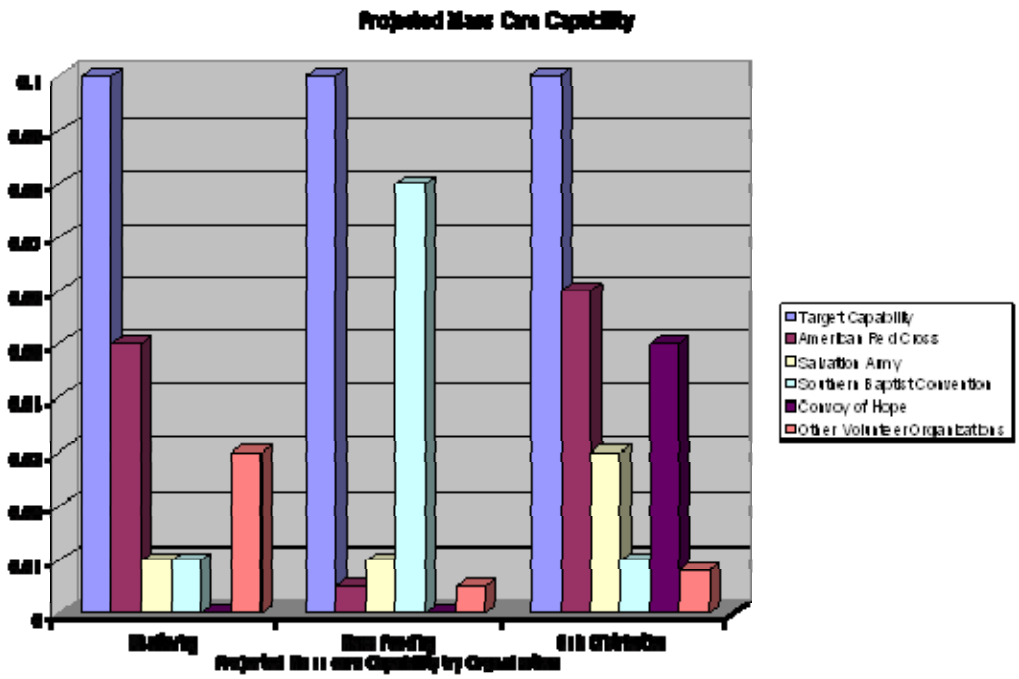

Figure 10. Projected Mass Care Capability Based on Recommended Program Changes [96]

Comparison of Figures 9 and 10 above demonstrates the significant capability increase experience when moving from less than 1 percent shelter capacity currently tolerated by the state. Figure 10 indicates the particular areas of increase for each organization that result in the achievement of the minimum target shelter capacity of 10 percent of the affected population within the 47 counties identified in the Mercalli map (Figure 2. in Chapter II, subsection B). The ARC has successfully planned disaster shelter operations based upon the planning figure that 10 percent of a population within a disaster zone will seek public shelter.[97] This is the planning standard included in its Chapter Disaster Response Planning Template.[98] Based on the 2000 census data developed b the United States Census Bureau, on which the August 10, 2005 HAZUS report is based, 10 percent of the population of the 47 counties identified equates to

[96] Gliniecki, interview, April 3, 2008.

[97] Friel, interview.

[98] American Red Cross, "Disaster Planning Template," (internal document, American Red Cross Capital Region Chapter, Jefferson City, MO, 2007), 7.

304,805 persons that can be expected to seek public shelter.[99] Since a New Madrid seismic event of this magnitude is considered by the State Emergency Management Agency‘s Mass Care Planning Committee to be the disaster event with the greatest impact on the state, it has been determined that 304,805 should be the target number for shelter and mass care planning.[100] Figure 10 demonstrates the projected capability following the implementation of the author’s recommendations based on increases in volunteer recruiting, mass care funding, organized planning and efficiencies gained in restructuring management.[101]

The need exists for a single disaster planning modality focused by strategic guidance with a more hierarchal management structure within ESF-6. This strategic guidance should include a target capacity for sheltering operations. The more hierarchal structure will allow for a better trained, streamlined and potentially more flexible and responsive EAF-6 capability. This is due to the volunteer organizations with the most experience and capability in a given area to train, exercise and coordinate the response of the other volunteer organization under their span of control. This restructuring should be coordinated by SEMA and DSS through the Governor’s Disaster Recovery Partnership and the MOVOAD.

A large number of volunteer organizations exist within and outside of the state MOVOAD that could be recruited, trained and assigned missions that support the existing core organizations greatly expanding response capacity. This increased capacity could be further enhanced if each of these organizations were given the responsibility for a specific function under the Department of Social Services. This would include disaster preparedness as well as response. The recommended assignments are: sheltering-ARC, mass feeding-TSA with the Southern Baptist assisting and bulk distribution-Convoy of Hope.

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[99] Federal Emergency Management Agency, “HAZUS-MH: Earthquake Event Report,” 29, 30.

[100] Glinieki, interview, 2009.

[101] Ibid.

The adoption of a disaster communication system for the management of ESF-6 is critical to the efficient operation of the shelter and its support system. This becomes even more important when one considers that the communications systems traditional relied upon by ESF-6 are unlikely to be unavailable immediately following a catastrophic New Madrid seismic event. Along with this communications system is the need for the adoption of the ARC National Shelter System as the formal system for tracking the evacuees throughout the sheltering process.

Additional funding is necessary in order for ESF-6 organizations to effectively reorganize and expand their capacity. As this entity is primarily composed of volunteer organizations, it does not require the same financial support as a more traditional governmental emergency response organization. The funding mentioned is largely for seminars, recruiting, planning meetings and the training of the volunteers for their intended disaster response tasks. DSS and the SEMA State-wide Volunteer Coordinator will also need funding to support the additional full-time staffing necessary to manage this expansion of capacity. Remember, when one spends money training a volunteer that works for free to accomplish a task, unlike their paid counterparts, one receives a net gain every time (s)he performs that task.

V. CONCLUSION

The primary disaster strength for mass care within the United States resides at the state and local level, and is reinforced by the national volunteer organizations committed to assisting the public in time of need. The federal provision of troops, air assets, water, ice, packaged meals, blankets and other supplies is helpful, but the strongest weapon in the FEMA arsenal is the promise to reimburse state and local governments for expenses incurred during the response phase of federally declared disasters. To date, the largest participants in this arena are the volunteer organizations, the private sector, and the Emergency Management Assistance Compact (EMAC). Of these participants, only the VOLAGs and the private sector are altruistic and are not reimbursed by either the state or federal governments.

Even with all of these available resources a New Madrid seismic event of the magnitude discussed here, without notice, would prove devastating to at least eight states. The cumulative damage from repetitive quakes and tremors would render a significant portion of the structures in eastern Missouri uninhabitable, at least not safely inhabitable. The federal government does not have the physical resources or trained personnel necessary to shelter large portions of the population. This responsibility falls to the states.

As the experiences borne of Hurricane Katrina and the more routine disasters within the state of Missouri have demonstrated, there is a shortfall of the necessary detailed planning, trained personnel, identified ARC certified shelters and overall mass care coordination within the state. At the present time the state of Missouri can adequately shelter less than one percent of the state population and .049 percent of the expected citizens expected to be displaced by a catastrophic New Madrid seismic event.[102] The experts within the state agree, given the results of the Missouri Hazard Analysis, that the minimum acceptable shelter level within Missouri is 10 percent of the resident population within the affected area.[103]

[102] Glinieki, interview, 2009.

[103] Ibid.

The remediation of the deficit between the current mass care capability and the projected need within Missouri requires a paradigm shift in approach. The state of Missouri could effectively meet the goal of 10 percent shelter capability through a serious commitment to capacity building through the development of a formal and more structured state vision and leadership by the executive and state agencies responsible for mass care. This should be followed by more detailed planning, and the selection of one planning modality and thoroughly utilizing its capability.[104]

SEMA, ARC, SBC, TSA and the Convoy of Hope already have an effective partnership with the ARC, SBC, TSA and the Convoy of Hope adopting the ARC doctrine training, and methodology. This is a progressive move that has borne positive fruit during the last two disasters within the state and should be not only encouraged, but expanded to include the many other volunteer organizations within the state. Many of these volunteer organizations already participate in disaster response, but need to be included in the formal system so they may be properly trained, certified and added to the predicted resource or supply system. This way they become effective partners within the system rather than a drain on it.

The inclusion of the other volunteer organizations within the more vertical system will allow the ARC to include those shelters in their National Shelter System, allowing the state to more accurately monitor the flow of displaced persons and more adequately route resources fro their support. It is important that state and local governments target the faith-based community for inclusion in the system. Also of importance is the commitment by the state to research the potential development of an information sharing or communications network that will meet the needs of the mass care system. The new state MERIS system may meet the need for communication, but will need to be supplemented with the ARC National Shelter System and another system for tracking displaced persons. Further study is needed to determine the feasibility of integrating these systems.

[104] Selecting either the All-hazards planning model or the individual plan for each threat model instead of a combination of the two, neither of which is complete.

One can not discuss mass care capacity building without also discussing the mobilization of the citizenry. It is important that the state and local leaders awaken the populace by describing the need for them to volunteer and go to training in order to qualify for the particular service for which they volunteered. It is a common belief among the volunteer community within emergency management that most citizens would gladly give of their time if they only knew what was needed to support their fellow citizens. It is incumbent upon the local and state leadership to assist in the call for volunteerism and the education of the public that individuals can make a difference. This is followed up by the emergency management field routing these potential volunteers to the structured volunteer organizations that best know how to train and make use of their skills. The volunteer organizations must keep them engaged and interested so their skills are still sharp and available when the next disaster strikes. This engagement may take the form of participating in the organizations more routine duties, attending additional training courses and participating in local and state disaster exercises.

The development of community preparedness relies on much more that the provision of an adequate number of volunteers. They must be part of an organized and formal preparedness effort. The connection between the local community and the state is critical for success. To effectively complete this connection, the state should have an ESF-6 liaison in each county of the state and, if possible, in each community of sufficient size. The function of this liaison would be to assist in the planning and preparedness program at the local and state levels, ensuring a positive connection and progressive flow of information and potential resources in both directions. Without this direct continual connection the system will likely break down and become dysfunctional.

It is one thing to discuss enhanced planning, capacity building through encouraging volunteerism, communication systems, active leadership and the other facets of building an effective mass care response capability, but unless the state reverses the past trend to significantly under fund ESF-6, the state will maintain the geographically intermittent one percent shelter capability that currently exists. Due to the reliance on volunteers for ESF-6, it is one of the few areas that do not require a one to one ratio of dollars-in to dollars-out in benefit. Since there are no salaries and benefit packages to

consider, there is little expense in sustaining volunteers beyond their initial recruitment and training. This is a tremendous return on investment for the government and volunteer agencies paying for the initial training. The challenge is to recognize that this is a critical area involving the life safety of citizens and should be treated at least with equal importance as the traditional fire service, law enforcement or emergency medical services currently enjoy.

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